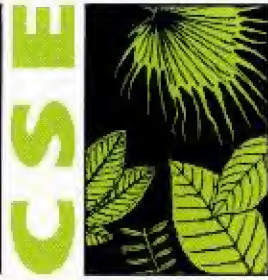


FIRST FOOD

A TASTE
OF INDIA'S
BIODIVERSITY





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FIRST FOOD

**A TASTE
OF INDIA'S
BIODIVERSITY**

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CONTENTS

*In memory of Surya Sen
without whom this book wouldn't look
the way it does*

CONTENTS

BREAKFAST AND SNACKS

- *Makhana parantha* 11 • *Makhana cereal* 11 • *Makhana snack* 11 • *Ambadi chi bhakhar* 15
- *Mahua bhakhar* 15 • *Ambadi chi bhaji* 15 • *Sattu parantha* 18 • *Litti* 19
- *Sattu dough* 19 • *Pantabhat* 20 • *Gahat dal parantha* 22 • *Mahua poda peetha* 25
- *Mahua rasputuka* 25 • *Arbi patode* 28 • *Navara stew* 29 • *Jute pakora* 31
- *Masala paanachi wadi* 32 • *Bhang pakora* 35

MEALS

- *Gongura pappu* 39 • *Gongura pulusu* 39 • *Bhatwani* 40 • *Amla ki dal* 41 • *Amla raita* 41 • *Moringa thoran* 45 • *Guar phalli sabzi* 46 •
- Chaulai ka raita* 49 • *Chaulai ka saag* 49 • *Jute saag* 52 • *Gahat dal soup* 53 • *Sangri ki sabzi* 55 • *Sangri ki kadhi* 55 • *Neem baigun* 58 •
- Phool ka bhaja* 58 • *Ker sabzi* 61 • *Fried bamboo shoot* 62 • *Bamboo akibiye* 62 • *Bamboo ironba* 62 • *Bamboo rotuui* 62 • *Karanda*
- sabzi* 67 • *Shukto* 69 • *Makhane ka raita* 70 • *Makhane ki sabzi* 71 • *Til ke aloo* 73 • *Kinema curry* 75 • *Papaya salad* 79 • *Papaya dal* 79 •
- Papaya flower fry* 79 • *Bajra khichdi* 85 • *Bajra bhakari* 85 • *Kanhi* 87 • *Singhare ki sabzi* 91 • *Singhare ki puri* 91 • *Thechwani* 93 •
- Khuree* 96 • *Tapioca sabzi* 99 • *Kachnar kadhi* 100 • *Kachnar chane ki tarkari* 100 • *Kachnar aloo ki tarkari* 100 • *Corn soup* 103 • *Selni*
- khula* 107 • *Omavalli leaf raita* 108 • *Mushroom soup* 109

CHUTNEYS AND PICKLES

- *Karanda pickle* 114 • *Neem pachidi* 115 • *Mulberry jam* 119 • *Bhang ki chutney* 120 • *Amla chutney* 121 • *Amla achar* 121
- *Bhangjeera chutney* 122

BEVERAGES

- *Bael sherbet* 127 • *Rhododendron squash* 128 • *Kokum sorbet* 133 • *Sattu drink* 134 • *Thandai* 135 • *Kanji* 137 • *Kanji vada* 137 •
Rasam 140 • *Thambli* 142 • *Bhangjeera tea* 143 • *Palash sherbet* 147

SWEETS

- *Haldi patra pitha* 150 • *Bajra kheer* 152 • *Ragi kheer* 153 • *Makhana kheer* 156 • *Sattu laddoo* 157 • *Amla murrabba* 160
• *Chaulai ka laddoo* 161 • *Singhare ke katle* 162 • *Til ki patti* 163 • *Til ke laddoo* 163

ABOUT THE PLANTS

- *Makhana* 12 • *Mahua* 26 • *Drumsticks* 42 • *Jute* 50 • *Khejri* 56 • *Bamboo* 64 • *Pulses* 76 • *Papaya* 80 • *Rice* 88 • *Karanda* 112
• *Neem* 116 • *Rhododendron* 130 • *Carrots* 138 • *Spices* 144 • *Amla* 158

TRADITIONS

- *Marathi food for Bong palate* 14 • *Thank the microbes* 16 • *Bitters for starters* 68 • *Against the grain* 82
• *Celebrating food security* 94 • *An heirloom in muslin* 104 • *Sweet surrender* 154

• *About the authors* 164

• *References* 165

• *Index* 166-168

FOREWORD

Food is very personal. We know that.
What we often don't realise is that food is also more than personal.

Food is also about culture and, most importantly, about biodiversity. We often do not think how flora and fauna around us make up our culture. We do not think that food diversity, indeed cultural diversity, is linked to diversity in the biological world.

As a result, we often do not value this biodiversity that grows in the wild, in the farm, in the forest and the lake and the ocean. Each region of India, indeed the world, is diverse in its food habits. It has its own recipes; it cooks with different ingredients; it eats differently. This is not an accident.

Every region, for instance, has its own rice variety. Many of these come with medicinal properties. Most are specific to the ecosystem they grow in. If the region is drought-prone, the variety survives in tough conditions, like *Kayame* rice of Karnataka. The *Orkaima*, *Pokkali* and *Kuttadan* varieties found in low-lying districts of Kerala are salt-resistant, hence suitable to grow in seawater. In the highlands of the same state, another rice variety is grown: *Navara* (in Palakkad), which has medicinal properties and has received the Geographical Indication Certificate in 2007.

This richness of variety resulted in culinary methods that were equally diverse and equally rich. Bengal has a tradition of cooking different rice in different seasons. This is our food culture.

If biodiversity disappears we will lose the food wealth on our plates. Food will become impersonal. It will become a sterile package designed for universal size and taste.

We have to join the dots. Food biodiversity needs our care and attention. Today with monocultures taking over, the only biodiversity that will remain will be stored inside the cold and controlled environments of gene pool laboratories. It will not flourish in the living world around us. The world that gives us life and the joy of living.

Just consider *makhana*, the seed of a member of the water-lily family. The plant grows in the multitude of lakes and ponds that once made up the floodplains of north

India. These water bodies were crucial for survival in this region destroyed periodically by rivers that bring water, silt and sorrow. The ecosystem was built by channelling the water of swollen rivers into ponds. This took away the pain of the flood. It provided for storage of water and, in turn, recharged groundwater, giving economic life to agriculture. But most importantly, the wetland gave alternative sources of food. One of which is the protein-rich *makhana*. Once the ponds are gone, the plant will not survive. Our source of food will be lost. One more taste will be forgotten.

One may argue that biodiversity does not need the ecosystem. It can be cultivated and can still be available to us. That is indeed possible. After all, potato originated in far away lands of South America. It was brought to India not so long ago by the Portuguese rulers and is now an essential part of our cuisine. We cannot imagine food without potato.

Yet we miss the biodiversity of potato that gives South American food its richness and indeed its health. We cannot imitate nature. We cannot manufacture biodiversity.

But we can choose to live with it. We can value it in the wild and in the farm. We can savour its taste and smell. This is joy of living. This is what we must not lose. Ever.

It is for this reason that the Centre for Science and Environment and *Down To Earth* decided to put together a compendium of recipes that originate in different regions and plants. It is an attempt to celebrate the knowledge of plant and their properties; how to best cook them to bring out their flavours and smells. This is lived biodiversity.

The emphasis is on appreciating the science and art of nature. If we can make nature part of our lives again; make the connection between what we eat and why we eat it, then we can also safeguard this resource for tomorrow. But if we lose the knowledge and culture of our local cuisines then we lose more than their taste and smell. We lose nature.

We hope you will share our passion for food that brings back this connection—between our stomach, our kitchen, our life and the world around us. We hope you will cook these recipes and enjoy their taste. We hope you will join us in learning more about ways to build biodiversity in our world.

Sunita Narain





BREAKFAST & SNACKS



Makhana parantha

More than religious

Vaidya Balendu Prakash

Makhana (*Euryale ferox*), or foxnut, is a common fixture in religious ceremonies in north India. It grows in the wetlands of Bihar, largely in Mithila, and in the ponds of West Bengal. The *makhana* plant is almost covered in thorns. The fruits, ready by May-June, are about the size of a small orange. They carry eight to 20 black seeds which are roasted and cracked open. The seed's outer black part falls off to reveal the puffed *makhana* seeds. (Read about *makhana* cultivation on page 12)



Breakfast cereal



Makhana snacks

Makhana's medicinal properties are well-documented in Ayurveda. It is effective in curing cardiovascular diseases, leucorrhoea and circulatory problems and is used in post-delivery care. *Makhana* is also believed to increase hormone secretion. According to an Indian Council of Scientific Research publication, *Nutritive Value of Indian Foods*, 100 grammes of *makhana* contain 9.7 per cent protein, 76.9 per cent carbohydrate, 0.1 per cent fat, 1.3 per cent minerals and 12 per cent water. The *makhana* plant, though, finds itself prey to a variety of pests and pathogens. Indiscriminate pesticide use, silting of wetlands and weeds, like water hyacinth, threaten it. But *makhana* is still prominent as a major cash crop in parts of Bihar. Known as the poor man's manna, *makhana* is easy to digest and affordable. Cultivation is an inexpensive affair. Seeds left over from the previous year's harvest germinate to make up the next season's crop. The only labour required is in prising the seeds open. But if the wetlands disappear so will the nutritious *makhana*.

MAKHANE KA PARANTHA

Makhana (roasted and powdered) - 1 cup

Potato (boiled) - 1

Green chilli - to taste

Salt - to taste

Mash potato and knead with *makhana* powder. Mix salt and chopped chillies to taste. Make balls from the dough. Roll out as for *chapatis* and cook on griddle till sufficiently brown

MORNING CEREAL

Makhana (roasted and crushed) - 1/2 cup

Milk - 1 glass

Almonds - 4-5

Raisins - 15

Banana - 1/2

Add *makhana* to a cup of hot milk. Add banana slices, chopped almonds and raisins

MAKHANA SNACK

Makhana - 100 gm

Muskmelon seeds - 50 gm

Roast *makhana* and melon seeds. Add salt and pepper, and store in an airtight jar

see recipe for raita & sabzi on page 70 & 71. Recipe for kheer on page 156

M

akhana is the seed of a member of the water-lily family and grows wild in ponds in the eastern part of the country. It grows in the Indo-Gangetic flood plain, the country's largest wetland system. It is commercially cultivated in northern Bihar, lower Assam and a few districts of West Bengal. Food experts believe that *makhana* has the potential to become a multi-crore enterprise just as a household snack. They believe it could become an important cottage industry for fishing communities. *Makhana* cultivation is based on traditionally acquired skills of fisherpeople. The fact that fish such as the black catfish (*singhi*, *magur* and *kawai*) breed in the *makhana* ponds means the seed could be a source of additional income for fisherpeople of the area.

Bihar alone accounts for over 270,000 hectares of the ecosystem in which *makhana* grows. Unfortunately, these wetlands are fast disappearing. Some studies say a hectare of the world's wetlands disappears every minute. In India, more than half of the wetlands have been wiped out due to bad management and lack of legal protection.

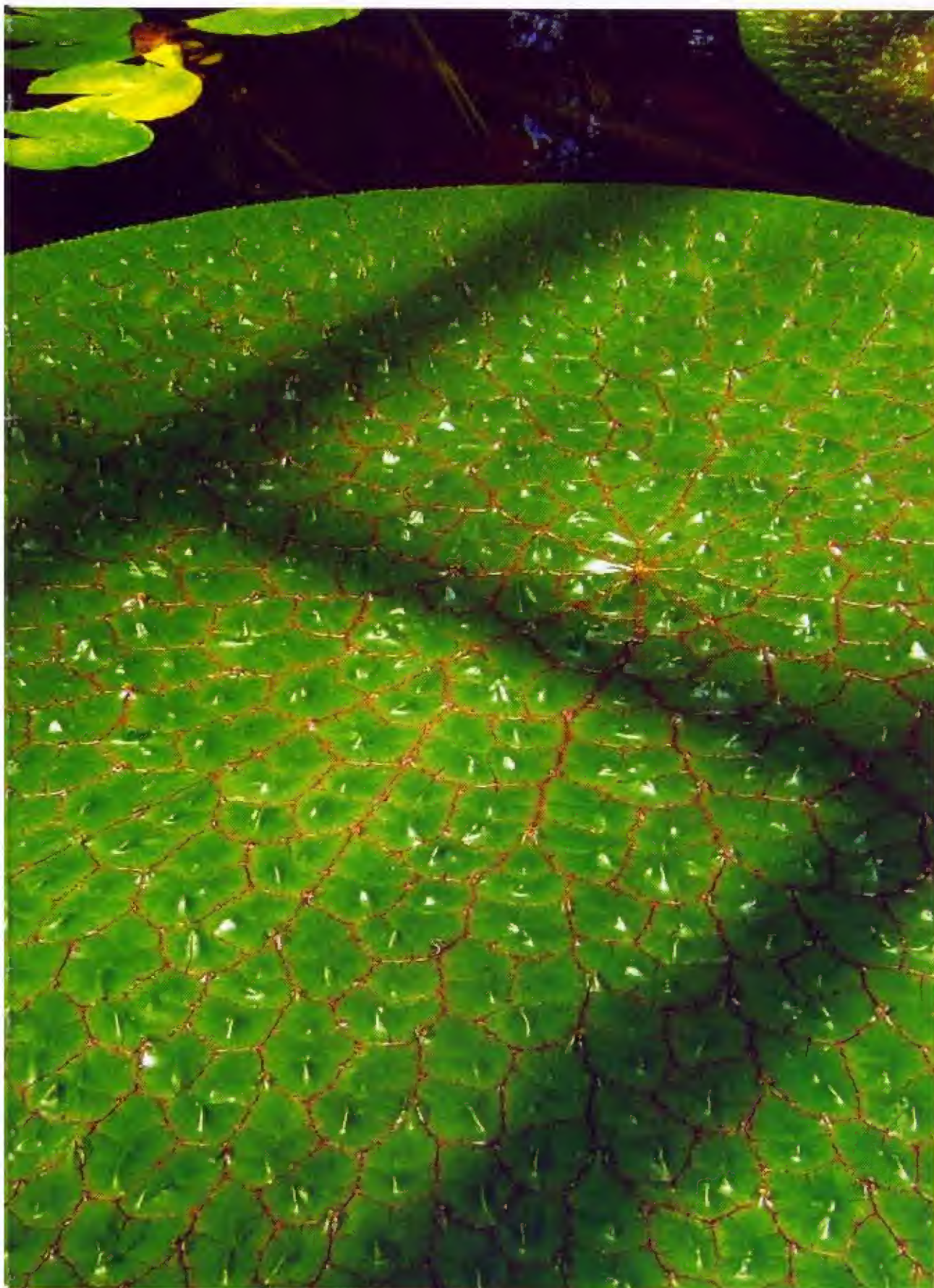
Siltation is one bane. Excess deposition of silt brought in by rivers and streams decreases the level of water in the pond or lake. Agricultural activities in and around the wetlands encroach on the home of the native flora and fauna. Run-off from fields carries chemical fertilisers, pesticides and other chemical compounds which pollute the water, making it unfit for support life.

Disturbing the balance of nutrition of the water accelerates the process of eutrophication, the lake's ageing process. Weeds grow all over the surface of the water body and cut off the pond's air supply. Weeds compete for the available nutrients with other plants.

All this does not bode well for the fisherpeople whose livelihood depends on both the *makhana* and the fish that grow in those wetlands.



Makhana: *Euryale ferox*



Marathi food for Bong palate

APARNA PALLAVI took 20 years to understand Vidarbha's culinary character: it lies in its bread diversity

To my Bengali-cosmopolitan taste, cuisine of the Maharashtra region lacked both variety and subtlety. There are two types of vegetable dishes—*mokli bhaji* or fried vegetables and *rassa bhaji* or vegetable curry. Both are fiery spicy, oily and prepared in a similar way. Non-vegetarian recipes are no different.

It took me five years to coin my first adage about Vidarbha's cooking: one can't add too much chilly to curries. It took me another five years to notice the flavours of chutney powders made from oilseeds and lentils. But chutneys are just fringe foods. It was after 20 years of wandering in the hinterlands that I grasped the charm of Vidarbha's food—its bread.

I had come across Maharashtra's festive bread—*pooran poli*—but promptly learnt to hate it. After my marriage, my mother-in-law wanted me to learn how to make *pooran poli*, but I put my foot down. The sweet delicacy is a fried *chapati* made from refined wheat flour, chickpea paste and sugar. That was the biggest blow to her; after all, a Marathi *bahu* must know how to make *pooran poli*.

We found common ground by accident. During a visit to the Melghat region in 2006, I got stuck in a tribal hamlet for 36 hours. The residents were drying and preserving *mahua* flowers for the rainy season to make *mahua bhakhar*—sweet bread of *mahua* flowers and sorghum flour. They believe that it protects from chills and aches during rains. An elderly lady prepared *bhakhars* for me and offered me a bagful of dried flowers.

I tried making *mahua bhakhar*. But instead of moulding it with hands, as the elderly lady had shown, I rolled it out with a rolling pin and proudly showed it to my mother-in-law. Soon we were deep into our first food conversation.

She explained how my shortcut technique had changed the flavour. My mother-in-law holds that moulding *bhakhar* between two palms is the best way to bring out the flavour. It took years for my palate to develop the refinement to realise that she was right.

My trips to villages in the meanwhile led to the discovery

of *bhakhars* made from other millets, such as finger millet, little millet and buckwheat—each with its own distinct taste. My mother-in-law did not match my enthusiasm for these. For her Kunbi community, the powerful landed class, these are inferior, tribal foods. Then, I inadvertently struck a deep chord with her. After interactions with tribal women in Yavatmal, I asked my mother-in-law about wild vegetables like *tarota*, *kundar* and *latari*. She joined me eagerly in scouting around for these in the small pockets of roadside greenery.

With repeated *bhakhar* meals, the hot, oily *rassa*; thin *kadhi*, and cloying *kheer* began to make sense. Though crisp and delicious, the *bhakhar* is nevertheless coarser than rice or wheat *chapatis*. It is difficult to gulp down without the strongly flavoured liquid accompaniments. It is best when made into a mush with dal or curry.



AMBADI CHI BHAKHAR

Fresh, young Deccan hemp leaves - 8-10

Sorghum flour - 200 gm

Salt - to taste

Oil - 2 teaspoons

Wash the leaves, dry them and tear into small pieces. Add salt and oil to the flour, mix it and knead with warm water. Form a heap and leave it covered for 15 minutes. Add the leaves to the moistened flour and cover it. After 15 minutes, take enough dough for one *bhakar* and knead with warm water till it is smooth. Pat or hand-mould into a thick *bhakar* of required size and bake it the way *mahua bhakar* is cooked (see next recipe). It is usually served hot with *ambadi chi bhaji*

MAHUA BHAKHAR

Dry mahua flowers

- 100 gm

Sorghum flour - 200 gm

Oil - 2 teaspoons

Salt - to taste

Jaggery (optional) - to taste

Carom seeds - a pinch (optional)

Clean mahua flowers by removing their stamens and pistils. Soak them in water for one hour and grind to a coarse paste. Add the paste, crushed jaggery, salt and carom seeds to sorghum flour and knead to a medium-soft dough. Add a little oil to make it smooth. Divide the dough into balls, pat or hand-mould them into thick *bhakhars* and put on a hot skillet. Roast on a medium flame, applying a thin coat of water on the upper surface to prevent it from cracking. Turn the sides to roast the *bhakar* thoroughly. Serve hot with spicy curries

AMBADI CHI BHAJI

Ambadi leaves - 200 gm

Sorghum flour - as desired

Salt - to taste

Green chillies - 3-4

Red chillies - 1-2

Oil - for seasoning

Mustard seeds - a pinch

Cumin seeds - a pinch

Ginger-garlic paste

- 1 teaspoon

Turmeric - a pinch

Fenugreek powder

- 1 teaspoon

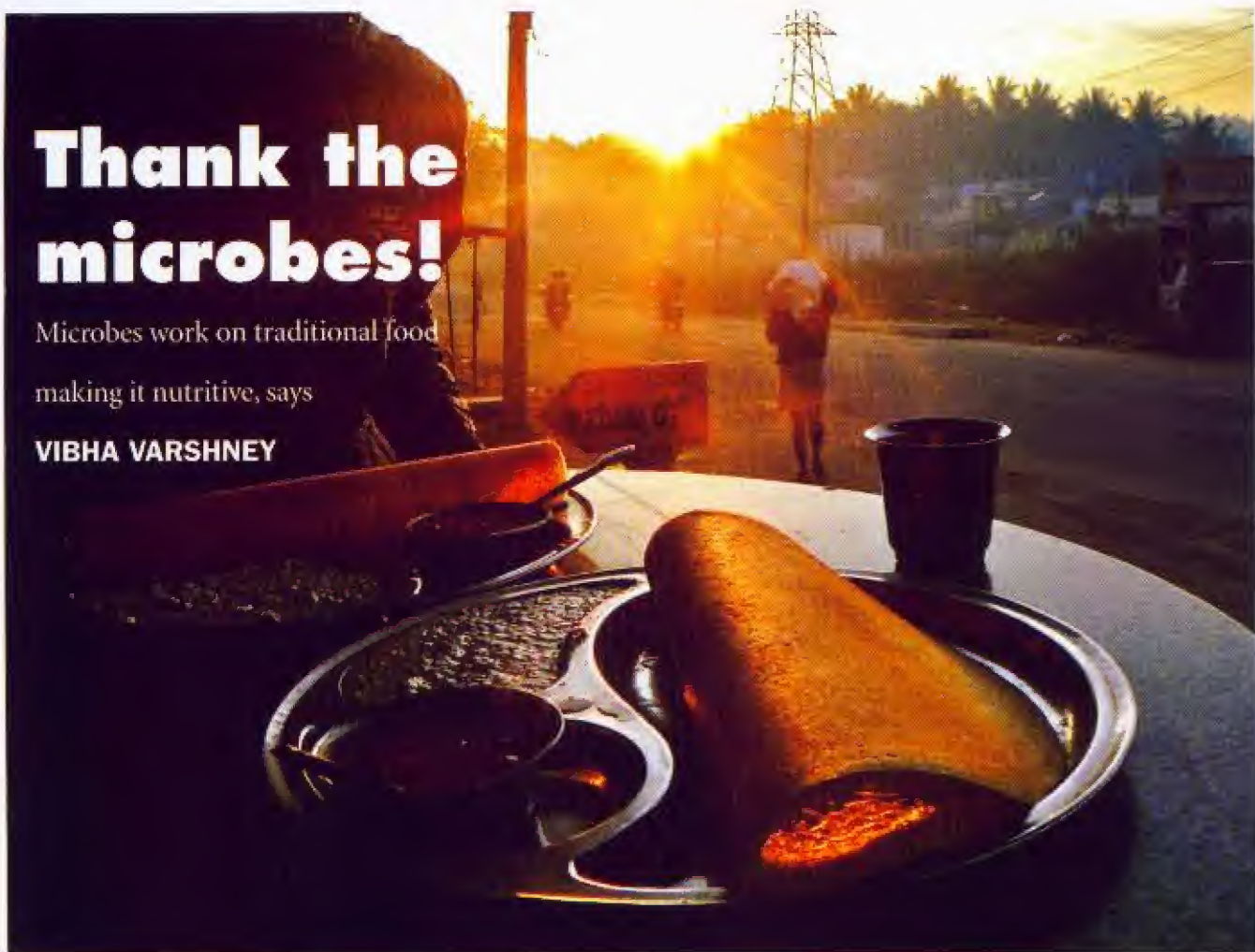
Wash and dry the leaves. Tear into pieces and put in a pan with salt and water for boiling. Once boiled, cover and simmer on slow flame. A few minutes later stir the leaves into a pulp. Add more water if needed. When the pulp starts to thicken, add sorghum flour, stir to avoid lumps. Stir till flour and leaf pulp are mixed and the flour is cooked. The paste can be stored in a refrigerator for days. Before serving, heat oil in a pan and add mustard and cumin seeds. When they start sputtering, add red chillies. Then put green chillies and ginger garlic paste and saute for a minute. Add turmeric and fenugreek powder, and ladle the required amount of *ambadi* paste into the pan. Mix and cook on a slow flame for two minutes. Serve hot



Thank the microbes!

Microbes work on traditional food making it nutritive, says

VIBHA VARSHNEY



Remember the last time you ate a crisp *dosa*. As the morsels disappeared into your mouth, you probably would have said a word or two in praise of the cook for getting the rice-black lentil batter in perfect proportion. But would you credit a few anonymous little creatures for this culinary dexterity? The microbes, bacteria and yeast, that worked tirelessly on the batter for about a day-and-a quarter giving the *dosa* lots of nitrogen, soluble proteins, reducing sugar and enzymes. It is they who made your snack fluffy and tangy. The English language terms their labour as fermentation.

Today, probiotics take inspiration from traditional fermented foods. But even at its best, the industry cannot offer either the variety or the taste created by traditional cooks. Most times, as in the case of *dosa* batter, raw materials provide microbes. Yeast granules easily available in the market are also good fermenting agents.

Jyoti Prakash Tamang, food microbiologist at Sikkim Central University in Gangtok, says, "Some microbes help in bio-preservation of perishable vegetables, fish and meat products." But he warns that synthetic compounds in food affects fermentation.

Filling

The actual values of proteins, carbohydrates and minerals are rarely measured in finished products. But a breakfast consisting of a mixture of fermented cereal and pulses was found more filling than other foods like white bread, rice flakes and semolina preparations by researchers from Shreemati Nathibai Damodar Thackersey Women's University in Mumbai. The researchers attributed this to the high-protein, high-fibre content and greater water-to-volume ratio of fermented food. Shikha Sharma, a dietician in Delhi, points out that foods worked on by microbes are easy to digest.

Her favourite is *khandvi*, a nutritious gram flour cake, which she says is good for people on a weight-loss diet.

Heat busters

In Haryana during the harvest season, a fermented form of *bajra* called *rabadi* is used to provide protection from the sun. It consists of crushed *bajra* seeds soaked in buttermilk (*seet*). The mixture is cooked well and left overnight. This does not change the food's fat, protein and mineral content but makes it less acidic.

Other fermented foods also have medicinal uses. Curd or *dahi* is said to check diarrhoea. Nutritionists say it regenerates damaged gut epithelium. "Fermentation converts lactose into glucose and galactose, easily digestible by even the lactose-intolerant. Also, milk does not have essential vitamins like B₁, provided by bacteria in the curd," says P R Sinha, scientist at National Dairy Research Institute in Karnal.

The fermentation process is also used to prepare high calorie sweets like *jalebis*. In Uttar Pradesh, *jalebi* with milk is considered a perfect start for the day.

274 microbes

Why do fermented foods from different kitchens taste different? Scientists say this is because of the specific combination of microbes. K Jeyaram and his colleagues from the Microbial Resources Division, Institute of Bioresources and Sustainable Development in Imphal, cite the example of *hawaijar*, a popular fermented soybean dish of Manipur. They tested 41 *hawaijar* preparations and found that the distinctive taste of each dish was imparted by a specific combination of 274 microbes. *Hawaijar* was already known to have species of the bacteria *Bacillus*. The researchers also found species of bacteria *Staphylococcus*, *Alcaligenes* and *Providencia*. "Industry can use information about microbes associated with traditional fermented foods to develop production technology for quality fermented foods," says Jeyaram.

But fermenting is time-consuming and is slowly losing its place in homes. Food companies have come up with packaged versions of *idlis* and *dhokla*. The friendly microbes do not work on these versions.



Leaves you well-fed

Prabhanjan Verma

People in southern Bihar often jokingly refer to their counterparts in northern parts of the state as '*sattukhor*', one who gorges on *sattu*. It says something about the humble powder made by grinding a mixture of roasted pulses and cereals. *Sattu* made from chickpea is the most common. *Sattu* is a strict no-no in religious ceremonies—the origins of this bar are unclear but it is believed this could be because members of 'lower' castes used to do the toasting. But such strictures fall by the wayside during festivities: for many upper caste Biharis, Holi bonhomie is incomplete without *sattu kachoris*.

In everyday life, *sattu* is the lifeline of the poor. Rich in protein, it leaves one satiated for a long time. Small wonder then, doctors advise longer hours of physical work after eating *sattu*. Did they learn that from farmers who do exactly that? The elderly in Bihar say *sattu* is the buffer between people dying of malnutrition and the apathy of the state's political class.

Workers eat *sattu* unprocessed. It can also be kneaded into a dough and eaten with onions and green chillies. The poor in Bihar also use this versatile powder to make a refreshing summer drink. A couple of glasses a day of this drink not only makes high temperatures bearable, but also keeps the stomach in order. This apart, *sattu* is ideal for people suffering from peptic ulcer, a common ailment in India. *Sattu* can fight diabetes, one of the most widespread lifestyle diseases, as it has a low glycemic index.

Today *sattu* has shed its image of the poor man's staple. With popular recipes like *litti*, Bihar's best-known delicacy, and *sattu ka parantha*, *sattu* is finding itself part of the fashionable dinner spreads and fireside gatherings.

SATTU PARANTHA

Take some wheat dough and fill with *sattu* and spice mixture.

Roll and make the *parantha* on the griddle





Sattu parantha

LITTI*Sattu - 250 gm**Onion seed - 1 teaspoon**Coriander powder - 1 teaspoon**Cumin powder - 1 teaspoon**Carom seeds - 1 teaspoon**Mango powder - 2 teaspoons**Garlic - 4-5 cloves**Ginger - 1 inch piece**Red chilli - 2-3**Mustard oil - 2 tablespoons**Wheat flour - 1 kg**Salt - to taste*

Mix onion seeds, cumin powder, coriander powder, carom seeds, mango powder, chopped garlic cloves, ginger and roasted red chillies. In this preparation, add mustard oil and *sattu*. Knead a kg of wheat flour and salt to form a elastic and pliable dough. Make balls out of the dough and flatten them. Fill in these with the *sattu* mixture. Roast until the balls are crisp. One can eat *litti* with potatoes and brinjal vegetable, savoury pickles and a generous topping of ghee

SATTU DOUGH

Take powdered roasted gram. Add salt and knead into a dough with water. Eat with onion and green chillies

see recipe for beverage on page 134 & laddoo on page 157

Well slept rice

Ena Desai

There was a time when 60 varieties of rice were cultivated in West Bengal. Rice is the staple food of Bengal and is grown in abundance all across the state. Cooked rice is soaked overnight in water (which was probably a way of preserving rice as 'smoking' was in Europe) to make a dish called *pantabhat*. This rice is eaten the following morning with the fermented water called *amani* (*kanjika* in Sanskrit). The dish sustains many poor farmers in Bengal and is equally popular in Bihar, Odisha and Assam. *Amani*, with a tinge of salt and chillies, is a favourite morning beverage in many parts of south India.

Pantabhat is supposed to have a cooling effect and thus is ideal for summers. It is nutritionally-rich due to slight fermentation. It is usually eaten with salt, onions and green chillies. Those who can afford to, accompany this with some sour items like green mango, lemon or tamarind, and a dry vegetable. On some occasions, dry fish is also eaten with this. The sweet-toothed Bengalis sometimes have it with jaggery or a ripe banana and, if available, crushed leaves of fragrant lemon. A variation of the dish is found in villages: water and cooked rice is placed in a pot (usually a clay *handi*) and covered with a piece of cloth. The pot is then kept in the sun and a handful of newly cooked rice is added to it everyday. In three to four days, the water is removed for consumption and some more fresh water is added. Sometimes this drink is seasoned with mustard, cumin and red chillies. The sour water can also be used for preserving mango and lemon. According to Maurique, a 17th century French traveler, holes are dug in the mud floor of the kitchen to store this drink.

The Bengali genius has come up with several innovations that make the dish tastier and appealing to a wider class of people. They mix freshly cooked rice with this water, and then season it with ginger and raw mango paste, chillies and some other spices including crushed leaves of fragrant lemon trees. These are then eaten with *kasundi* (a mustard sauce), onion, *dal vada* (dry pulse preparation), roasted fish and *ambol* (a sweet and sour mango dish).

There is an even fancier version of *pantabhat*. The cooked rice is topped with some sugar syrup and rosewater. This can be relished with lemon juice after about six to seven hours. Interestingly, the last day rituals of *Durga Puja* are incomplete without *pantabhat*. An offering of *pantabhat* is made to the *devi* along with a dish of lotus stems. (Read more about rice varieties on page 88)



Hill people love their beans

Jogendra Bisht and Akshay Shah

If you are at a home in the Garhwal and Kumaon hills around mealtime, chances are you will find the air filled with pleasant aromas. There is likely to be occasional crackle of *masalas* or a little clang of metal utensils as people get ready for mealtime bonhomie. A lentil soup is a veritable staple. People in Garhwal and Kumaon love their lentils and beans—be it the *urad dal* (the black gram) or the locally-grown *bhatt* (soybean). And then there is the perennial favourite, the *gahat*, or horse gram. (Read more about pulses on page 76)

With the pungent smell of asafoetida, the piquancy of chillies tempered by fresh coriander leaves, two bowls of *gahat* soup daily for a month are quite a mouth-watering way to get rid of kidney stones.

Ayurveda notes that *gahat* has diuretic properties (it increases urine flow). Ayurvedic practitioners believe the dal should be taken more often in winter because during this season we eat vegetables that are likely to cause kidney stones. They also recommend *gahat* for treating leucorrhoea and menstrual disorders. With iron, proteins and calcium, the lentil is a powerhouse of nutrients.

Gahat is highly drought-tolerant and can adapt to a wide range of soils including the saline variety. It is also cultivated in the dry areas of Australia, Burma and Sri Lanka. For a long time it was thought to be a variant of the *lobia* pulse, because of obvious resemblance, but recently botanists have classified it as *Dolichos biflorus* (a variety of beans).

PARANTHA STUFFED WITH GAHAT DAL

Dal - 25 gm

Spices and salt - to taste

Ginger - 1 inch piece

Garlic - 2-3 cloves

Wheat dough

Soak dal overnight. Boil and then finely grind along with ginger and garlic. Add salt and spices. Use as a filling in a dough ball and roll it like any other stuffed parantha

see recipe for soup on
page 53





High on *mahua*

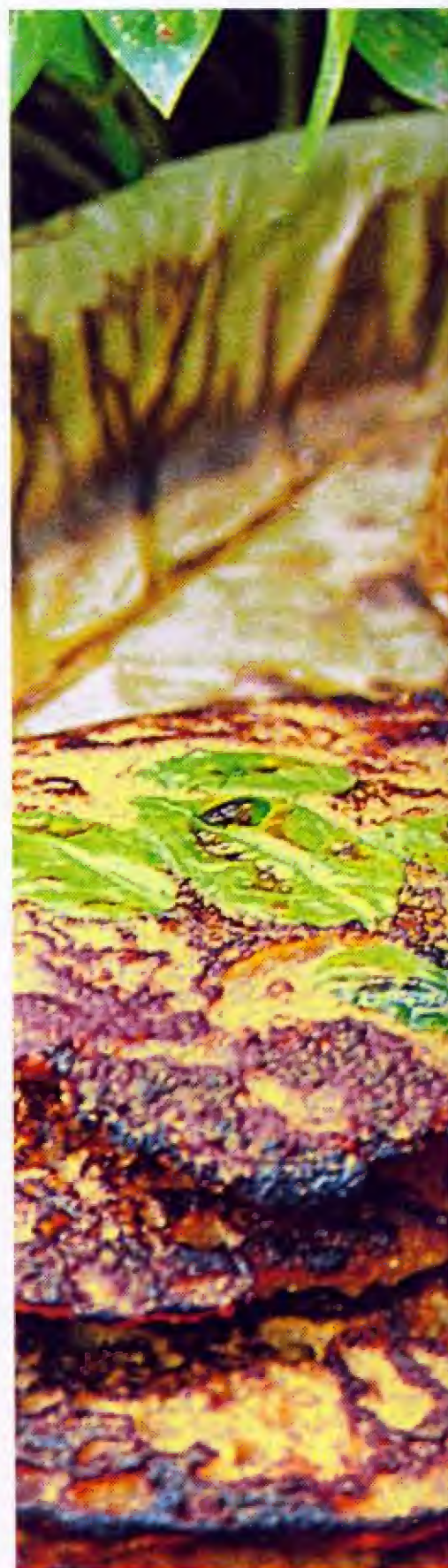
Nirmalendu Jyotishi

During March and April, the sweet smell of drying *mahua* flowers hangs in the air in the forest villages of western Odisha. There is festivity all round and merry making reaches its crescendo in the evening with men and women dancing, high on brew made from *mahuli* flowers.

The *mahua* tree (*Madhuca indica*) is a source of staple in the area. Fruits are munched raw and the seed kernels are crushed to produce edible oil. *Mahua* flowers are sweet and mouth-watering. The *mahua* tree blooms between February and April. The mature flowers are dried and sold at different prices depending on the time and quantity of production. (Read about the political past of *mahua* on page 26).

A report of the Mysore-based Indian Institute of Nutrition Sciences says the *mahua* flower is rich in phosphorus, iron and calcium.

In the past, *mahua* was the staple food of many indigenous communities in Odisha. But this is no longer the case — the state's excise Act restricts its storage in homes. A licence is required for this purpose. As a result, many have been forced to forgo their staple. People sell the flowers to agents of liquor breweries right after collection.



**MAHUA PODA PEETHA***Mahua flowers - 250 gm**Wheat flour - 250 gm**Salt - to taste*

Soak flowers in water for 4 hours. Strain out water. Prepare batter with wheat flour. Add salt. Spread half the batter on a hot-oiled griddle. Put the *mahua* flowers on it and cover it with the remaining batter. Cook both the sides. Serve cool

RASPUTUKA*Mahua flowers - 500 gm**Sesame seeds - 50 gm**Groundnut - 100 gm**Horse gram - 50 gm**Salt - to taste*

Soak flowers in water for 4 hours and boil for 15 minutes. Strain out the water. Fry sesame seeds, groundnuts and horse gram. Grind all ingredients together along with salt. Roll the mixture into *laddoos*

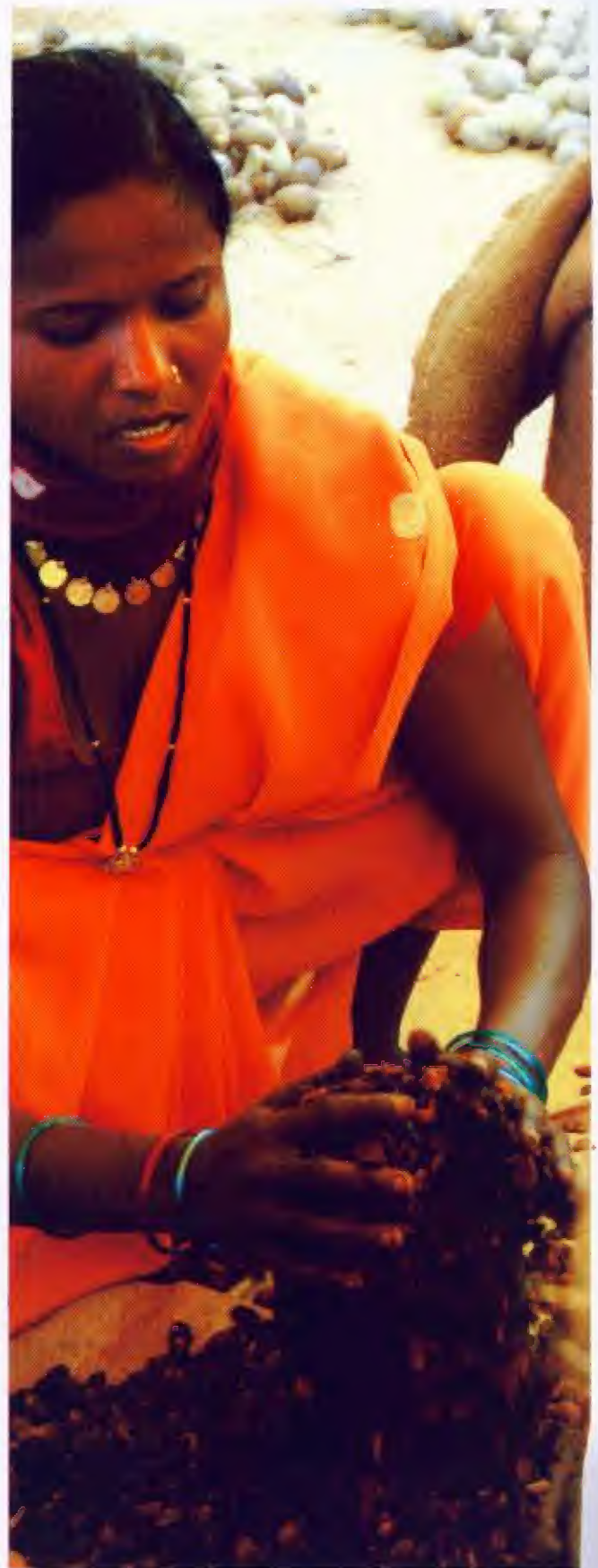
Mahua: *Madhuca indica*



The *mahua* tree played a crucial role in the economy of colonial India. The imperial government collected about a quarter of its total revenue from drugs and narcotics which included *mahua* flowers. Since illicit manufacture of *mahua* liquor cost it revenue, efforts were made to ban the collection of *mahua* flowers. The government was desperate to curb the illicit production of the brew and went as far as to propose uprooting each and every *mahua* tree. Indian nationalists opposed the Mhowra bill introduced in the Bombay Legislative Council in 1882 as the flowers were also a source of food for the people. However, the bill was finally passed in 1892.

Mahua derives its name from a Sanskrit word *madhu* or honey because its flowers have high sugar levels. Five species of the tree are found in India: *Madhuca longifolia*, *M latifolia*, *M butyracea*, *M neriifolia* and *M bourdillonii*. *M longifolia* and *M latifolia* are Malaysian in origin. *M latifolia* is more prominent in northern states like Uttar Pradesh and Madhya Pradesh, while *M longifolia* is more common in southern India. *M butyracea* is found in the sub-Himalayan regions like Kumaon and Gharwal. *M neriifolia* grows in Mumbai, Kanara, Chennai and Mysore. *M bourdillonii* grows mainly in Mysore and the Western Ghats.

The tree is about 20 metres tall with a spreading crown. Flowering begins at the age of 10, usually around March-April. Pollination is said to be done by bats. The inflorescence of small yellowish white flowers is present in the axils of the leaves. The flowers bloom in the night. The fruits are oval in shape and about 2-4 centimetre-long. Initially green in colour, the fruits turn yellowish when they ripe.



Lesser-known leaves

Vibha Varshney

It is uncertain how the leaves of *arbi* (*Colocasia esculenta*) became a food. Perhaps they came home along with the swollen stems usually used as a food item. An enterprising cook might have fried the slippery leaves into tasty *pakore*. They look and taste different from the conventional fried savouries, and in the villages of Uttar Pradesh they are called *patode*. The leaf's acrid taste is masked to an extent by the mustard oil, asafoetida, carom seeds and by the sourness of lemon or dried mango powder. But these cannot mask the slightly tingly character of the *arbi* leaf. The delicate *patode* do not travel well, so they are best eaten at home.

Though *arbi* is one of the major agricultural crops in the world, we know little about its origin. The vegetable is native to south-central Asia and India could be the centre of origin. While the underground stems are consumed more commonly, the leaf stalks are used in West Bengal and Kerala as a vegetable. In Odisha, rice is wrapped in the leaves and steamed in it to provide aroma. In Assam the leaves are used as salad.

Studies have shown that the green, tender leaves used for making *patode* are more nutritious than the stems. Though research on the Indian varieties does not provide an extensive comparison between the stem and the leaf, one study does mention that while the leaves have 18 grams of proteins per 100 grams, the stems contain only 10 grams of protein per 100 grams.



ARBI PATODE

Gram flour - 250 gm

Salt, chilli powder, coriander powder and garam masala - to taste

Baking soda

- 1/2 teaspoon

Arbi leaves - 4-5

Mustard oil

- 3-4 tablespoons

Asafoetida - a pinch

Lemon juice

- 2 tablespoons

Take gram flour, add salt, chilli powder, coriander powder and garam masala. Add baking soda and mix with water to a curd-like consistency.

Wash medium-sized leaves and dry. Spread the gram flour mix on the leaf and roll. Steam the roll for at least 15 minutes. Cool and cut the roll to form rings.

Take mustard oil in a pan. Put asafoetida, cumin and turmeric. Put the leaf rings next and sauté. Squeeze a lemon (or sprinkle dry mango powder) on the rings. Serve with mint and coriander chutney for breakfast or tea. It can also be eaten as a *sabzi* with *chapati*

Delicate touch of rice

P V Balachandran



NAVARA STEW

Navara rice - 100 gm

Onions - 2

Turmeric - 1/2 teaspoon

Boil rice with onions and turmeric. Do not add salt.

In Palakkad, endless vistas of green paddy fields greet a visitor. It is dotted with valleys, hillocks, rivers, forests, mountains and streams. Known as the Gateway to Kerala, Palakkad is also the rice-bowl of the state, the land of *navara* rice. *Navara* is now in the same league as champagne, basmati and Darjeeling tea. The medicinal rice variety received the Geographical Indication Certificate in November 2007. *Navara* also grows in nine neighbouring districts which have the same soil type and climatic conditions.

Navara is an ayurvedic physician's delight. The rice is of two kinds, white glumed (husked) and black glumed. The 12th century Ayurvedic text *Ashtangahridayam* describes the white *navara* as medicinally superior, but physicians today prefer the black glumed variety.

The rice has a wide range of benefits, say Ayurvedic texts. In the summer months, when the sun is at its unforgiving worst, the *navara* drink *karkidakakanji* restores energy. Boiled *navara* is a good weaning food for infants, particularly those with low weight. Broth prepared by adding *navara* rice to meat is recommended for pregnant women as it increases the weight of the foetus. Cooked with milk and herbs, it can treat internal wounds. *Navara* rice bran oil is used as a salve against wide range of aches and painful conditions like cervical spondylosis. Some Ayurvedic physicians also believe it can reverse paralysis and heal rheumatoid arthritis. They also use *navara* rice paste, *lepanam*, to treat psoriasis. The paste is also an excellent remedy for skin lesions. Rice gruel made of *navara* is considered beneficial in preventing diseases and is considered a safe food for diabetics.

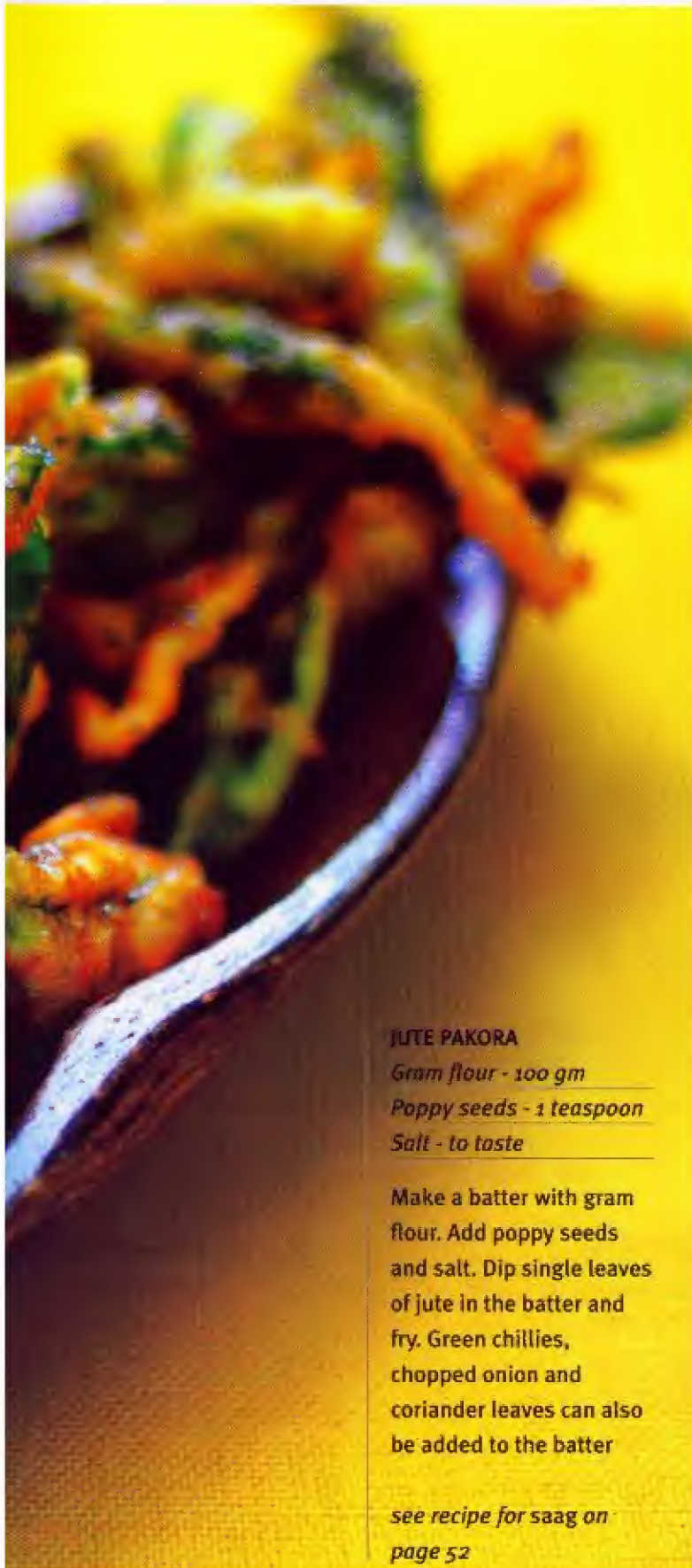
Navara is used in *navarakizhi*, a specialty treatment from Kerala's traditional medicine for curing neuromuscular disorders. The rice cooked in a decoction of the herb *sida* (*Sida retusa*) to which milk has been added is used as a scrub. It makes the body supple, removes joint stiffness, cleanses the body channels and improves blood circulation.

The black glumed grain of Palakkad could have a significant place in this health-obsessed world. Today, Kerala's farmers preserve *navara* against all adversities. Tomorrow, their difficulties might ease if the rice makes it to our kitchens and we celebrate the joys that nature provides. (Read about rice varieties on page 88)

Leaves of memory

Shyamal Banerjee



**JUTE PAKORA***Gram flour - 100 gm**Poppy seeds - 1 teaspoon**Salt - to taste*

Make a batter with gram flour. Add poppy seeds and salt. Dip single leaves of jute in the batter and fry. Green chillies, chopped onion and coriander leaves can also be added to the batter

see recipe for saag on
page 52

Jute leaves dwell in memory. It was what people lived off, ate in a land where there were many rivers and canals, in places with different names—Dhaka, Mymensingh, Pabna and Comilla. The names exist even now, but it is a different country. For Bengalis who had to build a new life after Partition, jute leaves evoke memories of a home that no longer exists. It evokes memories of smell.

As the finely chopped jute (*Corchorus capsularis*) goes tender on the iron wok and the leaves lose some of their glueyness, a wild aroma fills the kitchen, smelling of the hot humid earth of the Gangetic delta, where jute grew in abundance. A dash of mustard *kasundi* on the cooked leaves is likely to conjure up images of the little mound of steamy white rice with the cooked jute leaves neatly placed beside it on a big brass *thaal* (platter).

The bright yellow chutney of crushed mustard adds just the right punch to let the flavours play on the palate for a while before they invade the senses. The fibre in the leaves ensures there is no constipation caused by all the overindulgence. And for those who do not want to wait till mealtime, jute *pakoras* are perfect.

The calcium-rich *saag* had its heyday in the 19th century when jute was an industry. Once the jute decomposed and the twine was beaten loose in knee-deep water, it was dried. Bullock cart after bullock cart laden with the 'golden fibre' then headed for the local market. From the villages of Bengal the jute travelled to England, where it was processed in mills to feed the packing industry.

When the region was reborn as Bangladesh in 1971 jute was fading out of the economy and consequently, cuisine. But the refugees, when they crossed the boundary line following Partition, carried with them memories of the land they left behind. The smell and taste of their favourite *paat saag* now got woven into the folklore of the diaspora. (Read more about jute trade on page 50)

MASALA PAANACHI WADI

Fresh masala paan leaves - 12

Gram flour - 4 tablespoons

Rice flour - 1 tablespoon (optional)

Ginger-garlic paste - 1 tablespoon

Sesame seeds - 1 teaspoon (optional)

Carom seeds - 1/2 teaspoon (optional)

Salt - to taste

Chilli powder - to taste

Turmeric powder - a pinch

Oil - for toasting

Stale chapatis - 1-2

Wash the leaves. Mix salt, rice flour, chilli powder, turmeric powder, ginger-garlic paste, sesame and carom seeds, a little oil and gram flour. Add water and mix well to make a thick paste. Spread a layer of the mix over the glossy side of the leaf. Roll it, starting with the broad end and stick the pointed end of the leaf to the roll.

Take a skillet and heat sufficient oil for toasting the roll. Place four rolls. Dribble a little oil onto the rolls. When one side is done, turn them over and cover with a stale chapati. This is to ensure that the inner layers of the roll are properly cooked. Serve both with chutney or a dip of your liking





Spicy exotica

Aparna Pallavi

In tribal pockets of central India where people are still intimate with forests, they know the fruits and vegetables they can pluck for food. Even where vegetables are cultivated and market supplies organised, tribals and non-tribals alike savour wild vegetables of the forests as delicacies. One such vegetable is common night glory (*Rivea hypocrateriformis*), known as *masala paan* in the region. In other parts of India, people call it *phang*, *phangi*, *phanji* and *phandi*. Come winter or rains, this sturdy vine bursts out in a profusion of heart-shaped leaves.

Some cook the nutritious leaves with onion, salt and chilli as *bhaji*; some boil or chop them and add to flour to make *chapatis* or *paranthas*. In Vidarbha they are added to *tur dal* (pigeon pea) and seasoned or stir-fried with onions and *besan* (gram flour) to make *zunka*. The most popular preparation is *wadis*—spicy, toasted rolls with gram flour and condiments.

Masala paanachi wadi is a favourite among rural people. It is eaten hot or cold, as a snack, an accompaniment to a meal or simply wrapped into a wheat or *sorghum chapati* when in a hurry. Covering the rolls with leftover *chapatis* while cooking serves two purposes. The *chapatis* trap the steam to enable the *wadi* to cook properly and the stale *chapatis* lose their hardness and taste fresh.

The vine grows in forests and around farms. It is believed that *paan* can be cultivated by planting a portion of its tuberous root, but experiments carried out by non-profits show that the plant does not respond well to cultivation efforts.

It is disappearing in the wild now. The roots of *masala paan* are traditionally fed to cattle to enhance milk production. And with the expansion of milk trade in tribal areas, the roots have been extracted aggressively.

Beyond stoned

Sharmila Sinha

My first encounter with *bhang* was during a visit to Varanasi, 20 years ago. “*Padi, ya na padi* (With or without)?” asked the vendor at Godhuliya Chowk selling *thandaai*, chilled milk with finely powdered almonds, fennel seeds, rose petals and saffron. My husband and mother exchanged smiles and answered, “Na padi (without).” The *thandaai wala* was asking us whether we wanted the drink with or without *bhang*, leaves and flower tops of hemp.

Varanasi and *bhang* can be spoken in one breath. I have seen *bhang* being offered with *datura* flowers (*Datura stramonium*) to Shiva, the lord of the city, in the temple adjoining the *haveli* where we would often stay during our visits to Varanasi. On the day of Holi, *pakor*as (fritters) made of hemp leaves are a special attraction.

The use and abuse of hemp (*Cannabis sativa*) in several civilisations have been recorded from time immemorial; so have been its several therapeutic properties. I discovered some four years ago during a field trip with students to villages in the Sivaliks, the Himalayan foothills. The Van Gujjar communities there told us smoking a joint just before delivery eases pain. The paste of fresh *bhang* leaves is used to dress wounds and cure sores; its juice is applied to cure lice infestation and dandruff.

Another field trip with students to the fruit belt of the lower Himalayas coincided with harvesting time. The city-bred students helped the farmers enthusiastically to pluck fruits and dig out onions and potatoes. They would also pluck a few sprigs of coriander and mint leaves for preparing *bhang ki chutney*, a lip-smacking, nutritious accompaniment to look forward to at the end of the day. The village residents usually roast *bhang* seeds and keep them aside for the winters. Like the leaves, the seeds have high levels of omega oils, amino acids and vitamins, and keep the body warm during the harsh Himalayan winters. A fry of crushed radish and potato garnished with the paste of roasted *bhangolu* and green chillies becomes the mouthwatering delicacy, *thekchi*. I learnt the recipe from the ever-smiling Manju Devi, a young bride in the family I stayed with.

During another trip this year to Tolma village, 2,575 metres above the sea level in the Nanda Devi Biosphere Reserve, I saw hemp growing all around. The residents said they wanted to get rid of this persistent weed. Times had changed, they told us. *Cannabis* was commonly smoked till a few decades ago. Explained Susheela Devi, an elderly woman, *bhang* flowers would be plucked, dried, crushed and wrapped in leaves—which would then be lit and the smoke inhaled. She told me this was beneficial in case of premenstrual syndrome, epilepsy and body ache. Since 1980, it is illegal to grow, consume or traffic the weed in India without the government’s permission.



BHANG PAKORA

Tender bhang leaves - about a fistful

Green coriander - a few sprigs

Chickpea flour - to bind

Green chillies - 1 or 2 as per taste

Salt - to taste

Oil - for deep frying

Chop and crush the *bhong* leaves and mix them with coriander leaves. Sprinkle chickpea flour over them and add a little water to bind the greens. Add salt and green chillies. Mix well. Make small flat and round dumplings.

Deep fry

see recipe for chutney on page 120

Note: Bhang is an intoxicant and care should be taken before consuming it





MEALS



Gongura pulusu

Winter, Andhra-style

W G Prasanna Kumar

Deepawali festivities herald the *gongura* (*Hibiscus sabdariffa*) season in Andhra Pradesh. Children pluck twigs of this plant from the kitchen garden and tie cotton on the tip to make a lantern. This lantern is used to purify the house to herald the festive season.

Gongura is an integral part of cuisine in Andhra Pradesh. Pickle made from the leaves is a must with every meal.

The herb is a little less common in the Hindi/Urdu speaking belt of the country where it is called *pitwa*; in Maharashtra it is identified as *ambadi*; in Karnataka and Tamil Nadu as *pundit* and *pulichai keera*, respectively. In West Bengal it is called *nalite saga*, and in Odisha, *mestapat*.

Gongura has two varieties. The leaves of the red stem variety are quite sour and are used extensively in the Telangana region while in coastal Andhra Pradesh, the green stem variety is more popular. Guntur is famous for its spicy *gongura* pickle, which can be stored for up to four months. The mouth-watering chutney made from its leaves is a delicacy.

The herb is rich in iron, vitamin C, thiamine, riboflavin and niacin, proteins, carotene (an antioxidant), calcium and carbohydrates. *Gongura* acts as an appetiser and helps digest food. Ardent followers of traditional knowledge perceive it to be a vital part of a woman's diet.

A paste of carom seeds and salt put on *gongura* leaves (heated on the *tawa*) when applied helps get rid of thorns and body corns. The oil from *gongura* seeds can be used for cooking.

GONGURA PAPPU

Gongura - 100 gm of leaves (removed from the stems, softer stems can be used)

Lentil (red/green gram) - 100 gm

Cumin - 1/2 teaspoon

Mustard - 1/2 teaspoon

Fenugreek - 1/2 teaspoon

Red chillies (dry) - 3-5 (to taste)

Turmeric - 1/2 teaspoon

Asafoetida - a pinch

Salt - to taste

Finely chop *gongura* leaves and stems. Boil these along with lentil. Add oil in a pan, add asafoetida, seeds of cumin, mustard and fenugreek along with dry red chillies. Add turmeric and salt. Then put the boiled *gongura* and lentil. Stir the dish well and let it cook for at least 10 minutes. Serve piping hot along with rice or *chapati*

GONGURA PULUSU

Gongura - 100 gm

Mustard seeds - 1/2 teaspoon

Fenugreek seeds - 1/2 teaspoon

Cumin seeds - 1/2 teaspoon

Onion - 3 medium sized

Tamarind - size of a lemon

Green chillies - to taste

Salt - to taste

Chop *gongura* stems and leaves. Take a pan and put some oil in it. Add seeds of mustard, fenugreek and cumin. Add chopped pieces of the onions, a few green chillies and salt. Add *gongura* and cook for a while. Soak tamarind in a glass of warm water and extract the juice. Pour it in the cooked *gongura*. Add more water if needed to bring it to the consistency of *sambhar*. Serve with rice or *chapati*

Dark bean's bright side

Megha Prakash



It treats beriberi and lockjaw, promotes blood circulation and reduces cholesterol. No, it is not a magic pill but the humble black soybean. I first tasted it in the form of *bhatwani*, a staple daal in Uttarakhand. It was a simple lunch-eon. Steamed rice served with *bhatwani* along with some fried red chillies. The meal tickled my palate and curiosity.

A review of scientific literature, including *The Journal of Nutrition and Nutrition Reviews*, endorsed black soybean's curative powers. These beans dominate kitchens in the Garhwal and Kumaon regions of the state. A traditional black bean preparation of the Kumaon belt is *bhatiya*.

Kala bhat or black soybean belongs to the leguminosae family. Soybean (*Glycine max*) has seeds of many colours; the black one is rich in iron and protein* (read more about pulses on page 76). The plant is grown extensively in Uttarakhand and is harvested in October. Black soybean is soaked in water overnight and ground to a paste, which is boiled in an iron utensil with broken rice and salt and given to daughters-in-law. There is a gender bias in this. Giving "good food" to men is tradition and *bhatiya* is not considered good, said Chandra Malra who works as a supervisor in Mahila Sashaktikaran Vibhag, a department under the state's ministry of woman and child development in Dehradun.

BHATWANI

Black soybean - 250 gm

Rice starch (for proper consistency)

Fried red chillies - 3-4

Finely chopped garlic - 4-5 buds

Turmeric - 1 teaspoon

Garam masala - 1 teaspoon

Salt - to taste

Mustard oil - 3-4 tablespoons

Put one tablespoon of mustard oil in a pan and roast black soybean till it makes a popping sound. Crush the seeds while hot. Now add rice starch; quantity may vary according to the consistency required. In a hot pan, add 3-4 tablespoons of mustard oil. When hot, add finely chopped garlic. Now pour the mixture of rice starch and crushed black soybean in the pan. Add turmeric powder, *garam masala* and salt. Serve hot with rice and fried red chillies

Berry tears

Mahendra Pandey

AMLA WITH DAL

While boiling *dal*, add an *amla* or two. This is the simplest way to consume *amla*. Season the *dal* as usual. Have with *chapati* or rice

AMLA RAITA

Amla fruits - 2-4

Green chillies - 2

Ginger - 2 cm long piece

Coriander leaves

- to taste

Salt - to taste

Boil the fruits in some water. Grind them with green chillies, ginger and coriander leaves. Add the mixture in curd along with salt to taste

see recipes for chutney and achar on page 121 and murabba on page 160

A Hindu mythological tale has it that once Brahma became so emotional while meditating for Vishnu that tears rolled down his eyes. The *amla* tree was born out of those tears. Called *Phyllanthus emblica* in scientific parlance, it is a small, leafy tree that grows across India and bears an edible fruit (termed Indian gooseberry by the Britishers during colonial days). An *amla* tree can bear fruits for 65-70 years.

The berry is rich in vitamin C; it is an essential ingredient of the popular Ayurvedic tonic *chyawanprash*. It is said that a single fruit contains more vitamin C than three oranges or 16 bananas. Researchers from Jawaharlal Nehru Centre for Advanced Scientific Research in Bengaluru found the fruit's antioxidant properties exceeded that of commercially-available vitamin C. According to the Indian Council for Medical Research publication, *Nutritive Value of Indian Foods*, 100 grammes of *amla* has 50 mg of calcium, 20 mg of phosphorous and 1.2 mg of iron. The seed is valued for its oil, which is used to treat hair and scalp problems. The fruit has unparalleled medicinal properties. It improves eyesight and purifies blood.

In India, the area under *amla* cultivation has been expanding rapidly—from about 3,000 hectares in the early 1980s to over 50,000 hectares in 2003. Uttar Pradesh is the biggest producer of *amla*, followed by Gujarat. The plant grows easily on wasteland. (Read about the cultivation of *amla* on page 158)



Amla raita

Drumstick: *Moringa oleifera*





The drumstick tree grows in any kind of soil and requires little care. People have many uses for the flowers, beans and twigs of the *Moringa oleifera*, or the horse-radish tree. The beans, in fact, are almost magical. They can be used to extract oil, provide nutrition when tossed into culinary preparations and prepare medicines. The seeds have attracted the fancy of the research community for their inherent ability to purify water. The dried beans when ground to a powder work as natural flocculation agents, the first step in water purification. The seed provides an alternative to the commonly used alum salts, iron salts and synthetic polymers that are harmful to both environment and health.

The tree, native to India, could be used as a locally available, alternative means to provide clean, safe drinking water. The department of drinking water supply in India tested the efficacy of drumstick seeds as a purification agent in villages of Tamil Nadu between 1999 and 2002. In the study, conducted by Coimbatore's Avinashilingam Institute for Home Science and Higher Education for Women, three villages along the river Bhavani were selected since they were drinking the river's low quality water. The seed powder significantly reduced the water's turbidity and bacterial count. In February 2010, the use of drumstick seeds for water purification was inducted into the Current Protocols in Microbiology, the largest collection of online research techniques with over 11,500 protocols for scientists worldwide.

While extract of the seeds is an efficient coagulating agent, it is not clear how the proteins work at a molecular level. Researchers from Uppsala University in Sweden showed how small amounts of protein from these seeds bind with the impurities, which include both micro-organisms and other particles. The bound particles then form larger particles (flocs) and settle down. This means drumstick seeds can also reduce bacterial count.



Drum up your taste buds

M K Prasad

Every traditional Malayalee home has a *tulsi* plant in front of the house and a drumstick tree in the backyard. The drumstick tree (*Moringa oleifera*) is commonly known as *moringakka* in south India.

Its fruits, leaves and flowers are all edible. All these are outstanding sources of vitamins A, B and C. Their calcium content is also very high. Phosphorous is low, as it should be. What's more, they have low levels of fat and carbohydrate. The fruit is particularly rich in iron. In fact, in the Philippines it is used to cure anaemia. It also has high protein levels. In his book *Edible Leaves of the Tropics*, Frank Martin says *moringa* leaves are an incomparable source of the sulphur-containing amino acids—methionine and cystine. The dried seeds of the tree can be used to purify turbid water. Other parts, roots and the bark, also have medicinal value. Modern science has proved the anti-bacterial and anti-viral properties of the tree. Its seeds are used for purifying water (see page 43).

Moringa leaves, flowers and fruits can be used in salads, soups or curries. The raw drumstick is bitter from outside but sweet from inside. Cooking removes the bitterness and once the flavours of the gravy seep into the fruit, it becomes a juicy, chewy morsel.

•

MORINGA THORAN

Drumsticks - 6

Chana dal (boiled) - 1 cup

Green chillies - 3

Onions - 8

Coconut oil - 1 tablespoon

Curry leaves - 2-3 sprigs

Turmeric - 1/2 teaspoon

Mustard seeds

- 1/2 teaspoon

Cumin seeds

- 1/2 teaspoon

Fresh coconut (grated)

- 1/2 cup

Peel the drumsticks and cut them into pieces.

Cook the pieces along with salt and turmeric powder. Grind chillies with a sprig of curry leaves and add the paste to the cooked pieces. Add some mustard and cumin seeds, chopped onions and a sprig of curry leaves to hot coconut oil. When the onions turn brown, add the cooked drumsticks and boiled *chana dal*. Stir well. Garnish with coconut

A gummy bean

Renu Dinakar

The inimitability of India is reflected in its food, which is not only easy to prepare, but also appetising. This is especially true of cluster beans, called *Cyamopsis tetragonoloba* in scientific parlance. The beans are popularly known as *guar kil phalli* in many northern states of India. They are called *govar* in Gujarat, *kothavara* in Tamil Nadu, *jhar sim* in West Bengal and *achinga* in Kerala.

Cluster beans are particularly popular in Rajasthan, as the plant is drought-tolerant. It looks more like a leafy weed than a bean-producing vine that has been busy bearing fruit all summer. The beans are most desirable for cooking when they are tender. They taste bitter when chewed raw, but become extremely tasty when cooked with spices.

The beans have large seeds that contained galactomannan gum, commonly known as *guar* gum. It forms a gel in water and is used for manufacturing dairy products like ice cream; it acts as a stabiliser in cheese and cold-meat processing. The current demand for *guar* gum outstrips supply and hence cluster bean cultivation is being introduced in new areas. About 40 per cent of the world production of *guar* gum takes place in India, and its use in shale gas extraction has in recent times increased the gum's demand. The plant can be used as cattle feed or green manure. It can also be used for applications in paper and textile industries, ore flotation or in the manufacturing of explosives.

PHALLI KI SABZI

Guar ki phalli - 1/2 kg

Red/ green chillies - 4

Asafoetida - a pinch

Salt - to taste

Vegetable oil

- 3 tablespoons

Take *guar ki phalli*, string them and chop into pieces. Boil them for 15 minutes in adequate water. Squeeze the excess water from the beans. Heat oil in a pan and add asafoetida. Tip in the beans. Season with salt and red chillies according to taste. Those who like spicy food can even add finely chopped green chillies. Cook the vegetable for a few minutes. Serve piping hot with *chapatis*.



Colour it red

Pushpesh Pant

The plant *amaranth* is known in north India as *ramdana* (the Lord's grain). It is also known as *chaulai* and grows abundantly between the altitudes of 1,000-3,000 metres in the Himalayan region. It is also grown in Madhya Pradesh, Gujarat, Maharashtra and Tamil Nadu.

The most common *amaranth* grain variety used in India is *Amaranthus hybridus*. It is believed to have risen from a strain found in Latin America. The grain and leaves combine to provide a perfectly balanced diet, nutritious and cheap. While scientists classify *amaranth* as a grain, most Indians treat it as a non-cereal. This allows *ramdana* to be eaten as *phalahar* (permitted fruit diet) during fasts. *Ramdane ki chapati*, *chaulai ka saag*, *chaulai ka raita*, *ramdane ki kheer*, *halwa* and also *ramdane ke laddoo* or *ramdane ki chikki* are some of the popular dishes made out of the grain/fruit. *Ratanjot* or cockscomb, which imparts the characteristic red hue to the Kashmiri delicacy *roghan josh*, is the root of *amaranth*. It is used to add colour to medicines as well.

This poor person's staple is fast becoming a health food fad. Hygienically and attractively packed, *ramdana* is now also found in superstores at a rather hefty price. Traditional wisdom recognises its beneficial properties. It alleviates piles, reduces eczema, provides relief in colic and acts as a diuretic. Boiled *amaranth* leaves are applied as a poultice to reduce painful swellings, and to manage snakebites and scorpion stings. Indian farmers are well aware of its lactogenic effects, and feed it to their cows.





Chaulai ka saag

CHAULAI KA RAITA

Chaulai leaves - 250 gm

Curd - 1 kg

Cumin seeds, salt

- to taste

Green chillies - 2-3

Mint leaves - for

garnishing

Take fresh *chaulai*. Wash well, and then boil the leaves. Drain, cool and mash. Take one kg fresh curd. Blend curd with mashed *chaulai*. Add salt to taste, a spoonful of roasted cumin seeds, a few sliced de-seeded green chillies and garnish with a few sprigs of mint. Chill and serve

CHAULAI KA SAAG

Chaulai leaves - 1/2 kg

Red chillies (whole) - 2-3

Cumin seeds - 1 teaspoon

Garlic - 2-3 cloves

Asafoetida - a pinch

Salt - to taste

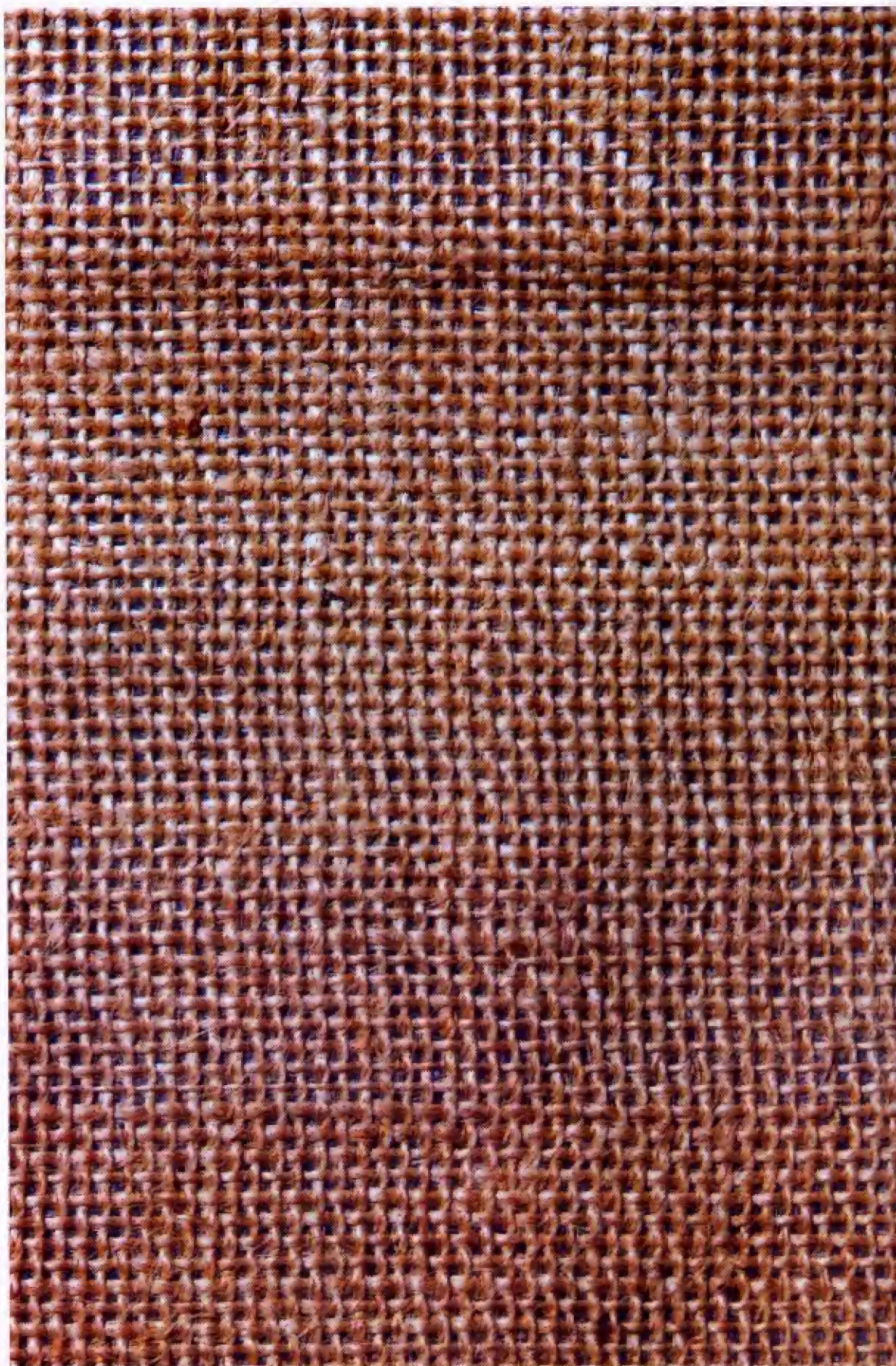
Vegetable oil

- 2 tablespoons

Wash *chaulai* and chop finely. Heat oil in a deep pan. Put red chillies and cumin seeds. Add garlic cloves and asafoetida. Add the greens and salt. Cover and simmer for 10-12 minutes. Let the water dry

see recipe for sweet on page 161

Jute: *Corchorus sativus*



T

he 'golden fiber' is one of the largest industries in eastern India and an important part of the Indian textile industry. The roots of the industry can be traced back to the Mughal Emperor Akbar's time when it was grown in the Bengal delta and woven into cloth worn by the poor. It became an organised industry only when the British East India Company saw jute as a profit-making proposition. Around early 1790s, samples of jute were sent to the UK under the name 'Indian grass'. Thirty years later, jute was introduced in Dundee, Scotland, which had been a major centre for the weaving of coarse textiles for years. These jute mills were fed by raw jute exported from India, which was then the single supplier of jute in the world. The first few jute mills in India were set up in Bengal in the 1800s by the British leading to the prosperity of a class of Englishmen called the 'Jute Barons'.

Introducing jute in Dundee created a lot of excitement in the weavers who wanted to know whether it could be spun in the power-driven flax machines. But the coarse nature of jute makes it difficult to be spun in a machine as it breaks, forcing the entire process to be done purely by hand. But spinners at Dundee discovered that by softening the fiber in whale oil it was possible to process jute the same way as flax. Since Dundee had a whaling port, access to oil was not a problem.

The jute industry didn't look back, and jute became one of the most popular textiles. It is one of the cheapest fibers and is second only to cotton in the uses it can be put to. 'Jute weaver' was a recognised trade occupation in the 1901 UK census. After India's independence, the Jute Barons had no option but to leave and the industry witnessed a decline. In the 1970s, the introduction of synthetic fibers all but wiped out this enterprise. But the foundations of this industry were firmly in place in India thanks to the British and it recovered in subsequent years. Jute has now entered various other sectors as natural fibers have acquired popularity because they are eco-friendly.

Today, the value of jute exports in a year goes up to nearly ₹600 crore. It provides livelihood to three lakh Indians employed directly or indirectly in the 78 mills across the country.



Chew on this

The jute *saag* is more fibrous than other leafy vegetables and has a distinct taste. With *kasundi* (a mix of mustard and spices) and rice, it has the making of a rugged meal

SAAG

Jute leaves - 250 gm

Red chillies - 3

Mustard seeds - a little
more than 1 teaspoon

Turmeric powder
- 1 teaspoon

Salt - to taste

Wash the leaves and chop them fine. Heat half a spoon of mustard oil in an iron frying pan. Add mustard seeds, wait till they begin to crackle, then add the chillies, turmeric powder and salt. Put in the leaves, stir and cover the pan. Cook in low flame stirring occasionally till the leaves turn tender.

see a recipe for jute
pakora on page 31



Get well soon

This might be one of the rare times when a medicine tastes good.
The *gahat* soup is said to remove kidney stones



SOUP OF GAHAT DAL

Gahat dal - 100 gm

Salt - to taste

Soak the *dal* overnight, and then boil it for 30 minutes after adding salt to taste. After the *dal* cools down, grind it with ample amount of water

see other recipes for this pulse on page 22



Distress food

Sopan Joshi

It is quintessentially Rajasthani. But if you can spot the local *Marwari* shopkeeper, you will find that it has travelled the length and breadth of the country along with this business community. *Sangri ki phali* (pods of the *khejri* tree; *Prosopis cineraria*) grows in Rajasthan but can be found easily in Burra Bazaar of Kolkata, Khari Baoli in Old Delhi or Sahukarpet in Chennai. You can also find it in London and New York, if you are persistent enough and lucky.

Sangri is a must in a Rajasthani household, especially on *Sitla Ashtami* (about a week after the Holi festival), when no food is cooked in the house. *Sangri* is cooked at night and eaten with relish the next day. *Sangri* is found across the Thar desert and is plucked, dried and stored for use during drought. Once cooked, it can be eaten for days without refrigeration. Moreover, *sangri* is 53 per cent protein. Excellent nutrition for bad times! It is sold at different rates in metros depending on the locality. Spiraling rates in the metros, though, have made *sangri* too expensive for people in the desert. Still, you are likely to get lower rates in small towns and villages.

A relatively rarer dish made with *sangri* is *panchkuta*. It also includes seeds of *kumat* (*Acacia senegal*), fruits of *ker* (*Capparis decidua*), *kachri* (*Cucumis* sp) and *goonda* (*Cordia mixa*) which are crushed, mixed and fried after adding condiments to taste. You will mostly find travellers from Rajasthan eating it with *bajra chapati* in the trains. In the past, people relied on it heavily during their long journeys on carts and camels. If you love rich spicy food then *sangri sabzi* is right up your alley. Locals prepare this *sabzi* with a lot of oil and red chillies. People from the desert have a cultural bias for both—oil acts as a preservative and chillies lubricate the mouth, thus, reducing the need for water. (Read more on *khejri* tree on page 57)

SANGRI KI SABZI

Sangri - 250 gm

Whole coriander seeds - 1 teaspoon

Asafoetida - 1 pinch

Whole red chillies - 4

Mango powder - 1 teaspoon

Salt - to taste

Soak *sangri* in warm water and keep overnight. (In case you forget, boil in water and let it remain for an hour). Now in warm oil, add coriander (whole seed to be preferred to the powdered cousin), asafoetida, whole red chillies, *sangri*, mango powder and salt to taste. Stir it till it matches your idea of 'cooked'. Some like it well done, some like it sautéed. In Rajasthan, its home tract, *sangri* is eaten with *chapatis* of *bajra* or *jowar*, with a generous dollop of butter on top. Suit your taste and, well, the doctor's prescription too

SANGRI KI KADHI

Sangri boiled - 250 gm

Curd - 250 gm

Cumin - 1 teaspoon

Mustard seed - 1 teaspoon

Whole coriander seed - 1 teaspoon

Salt - to taste

Heat up a little oil and add cumin, mustard seeds, whole coriander, turmeric, whole red chillies and salt. Add watered down curd and heat. Now add boiled *sangri* and cook

Khejri: *Prosopis cineraria*





K

hejri tree (*Prosopis cineraria*) grows profusely in the Thar Desert and is a key player in the ecosystem. Khejri does not compete for water and nutrients when grown along with crops, thanks to its deep tap root system. Rather, it replenishes the soil and adds to its fertility with the natural process of nitrogen fixation. The tree is also known to stabilise shifting sand dunes. Usually grown in fields and grazing land, it provides fuelwood, fodder and food. *Khejri* can thrive in poor soil, in areas with low rainfall and is far better than other trees for afforestation programmes. Researchers in the country are trying to micro-propagate *Prosopis cineraria* under *in vitro* conditions because of its vital role as an agro-forestry species. Efforts made to genetically enhance the qualities of *khejri* have resulted in a faster growing species. The tree is also found in Pakistan and south Yemen. Keeping the versatility of the tree in mind, efforts are on to introduce it in other countries like Argentina, Brazil, Chile and Kenya.

Its pods are called *sangri* which is used for its various medicinal properties. The flowers are mixed with sugar and consumed to prevent miscarriages. A mixture of twigs and flowers acts as an anti-diabetic. Dry pods of the plant are rich in protein, iron and calcium—effective for curing malnutrition.

Lean neem time

Arttabandhu Mishra

A collaboration of geneticists, chemical engineers, pharmacists, agronomists and dieticians could not have produced a more valuable tree than neem (*Azadirachta indica*). For many people worldwide, neem is priceless due to its numerous medicinal properties. It is such a cherished tree that in Sanskrit it has 31 epithets. On *Mahavisubha Sankranti*, celebrated every year on April 13-14, each member of an Oriya household is supposed to chew young neem leaves along with those of *bel* and *tulsi* to keep oneself healthy for the whole year. The tree is revered as a manifestation of goddess Durga. In Bengal, neem is synonymous with goddess Sitala who has the power to cause or cure disease. The tree is usually planted in public places, as it is believed that wind passing through neem keeps people and animals free from infections.

Every part of the tree is useful. Neem twigs are used as tooth brushes since they provide protection against gum diseases. Neem oil, which is extracted from the seed kernel, has excellent healing properties and is used for making creams, lotions and soaps. It is also known to have insect repellent properties. In recent years, these and its hormone regulating properties have prompted considerable research. Neem oil is also an effective fungicide. Researchers have tested the efficacy of neem against a variety of diseases. Neem leaves are used to treat fever, headache, smallpox, chickenpox, skin allergies, cough, parasitic worm attacks, piles, leprosy, diabetes, ulcers, gonorrhoea, syphilis, loss of appetite, gynaecological disorders, greying of hair, baldness, snake bites, scabies and eye irritation. (Read more about Neem tree on page 116)

NEEM BAIGUN

Young neem leaves - 100 gm

Round brinjal - 1 kg

Turmeric - 1 teaspoon

Mustard oil - 2 tablespoons

Red chilli - 2 or 3

Salt - to taste

Peel and cut the brinjal to small pieces. Fry the neem leaves in a thick pan. Remove from oil. Fry chillies in the oil and add the brinjal, turmeric and salt. Cook till the brinjal is soft and add the fried leaves. This is eaten with rice

PHOOL KA BHAJA

Dry neem flowers - 250 gm

Red chillies - 3-4

Onions - 2

Garlic - a small piece

Take neem flowers. Sauté them in oil for two to three minutes. Red chillies, finely chopped garlic and onions can be added for taste. It can be eaten along with water rice (*pakhaal*) or steamed rice

see recipe for chutney on page 115



Neem baigun



The drought food

S M Mohnot

In the Thar desert when *ker* (*Capparis decidua*) flowers profusely, people of the Bhil and Garasia tribes take drought to be imminent. But the harbinger of drought is also a saviour of sorts. Homemakers in Rajasthan pickle its flower buds and unripe fruits; leading pickle companies, too, use the fruits to make mixed *aachar*. People generally prefer a pickle combination of mango, *ker* and *goonda* (*Cordia mixa*) fruits made in sesame or mustard oil. Common spices and fenugreek are added to make the *aachar* more appetising; some Marwaris even put fennel, ginger and split chickpea. The pickle can be eaten for a year at least. Unlike the commercial units, Rajasthanis are strictly against using any kind of preservatives.

The *ker* vegetable is a favourite of homemakers as it can be cooked in 10 minutes. Children are also fond of the ripe *ker* fruit called dhalu; its sap has a distinct sweet taste. Some local people call *ker* a straggling shrub, others believe it is a small tree. It is also found in parts of Haryana, Gujarat, Punjab, Uttar Pradesh and southern parts of the Deccan Peninsula. Of its 26 species, *ker* is the most widespread in the Thar Desert.

The plant also grows in Egypt, Namibia, Ethiopia, Somalia, Iraq and Pakistan. The *ker* flowers contain fairly good quantities of vitamin C, protein and minerals. The fruit husk and flowers contain alkaloids, essential for the body. The flowers contain a volatile sulphur compound, which is active against several microorganisms. The alcoholic extracts of the flowers, fruit husk and seeds show antibacterial activity, particularly against *Vibrio cholerae*, whereas the liquid extract is effective against parasitic worms. Many traditional healers prescribe *ker* fruits for cardiac diseases. The extract of immature fruits can be used to cure trachoma. The plant is an ingredient in the popular tonic Liv52.

White ants do not attack *ker* wood and can be used to make agricultural implements like the plough. To take advantage of these benefits we need to conserve the plant, fast disappearing today from many parts of the Thar.

KER KI SABZI

Ker fruits - 100 gm

Coriander seeds - 1 teaspoon

Red chilli - 2 or 3

Salt - to taste

Asafoetida - a pinch

Buttermilk - 1/2 litre

Boil salted *ker* fruits in buttermilk. Dry them. Take oil in a pan and add asafoetida, coriander seeds, chilli and salt in it. Then add the dried *ker* fruits. If in a hurry, then one can cook the fruits without boiling in buttermilk

Eat shoots and leaf

Hoihnu Hauzel

Be it for the medicinal value or the flavour, people around the world love eating bamboo shoots. The young shoots of an edible species of bamboo, plucked as soon as they poke out of the ground, are said to be rich in vitamins and amino acids. They are also a good source of fibre, carbohydrates, vegetable fat and proteins. The Japanese believe that powdered bamboo bark prevents bacterial growth and they use it as a food preservative. In Indonesia, bamboo species are used for medicinal purposes, such as for controlling internal bleeding. In many parts of the country, nursing mothers consume bamboo soup.

Bamboo shoots are crunchy and slightly sweet. They become bitter with storage but the bitterness can be removed by boiling. The shoots take the taste of the food they are cooked in but do retain a pungent taste.

For a Japanese, Taiwanese, Chinese, Thai or Nepalese, bamboo shoot is a staple. In Nepal, each household consumes about 46 stems per year and Taiwan consumes 80,000 tonnes of bamboo shoots annually.

In the northeastern region of India, no dish is complete without a dash of bamboo shoots. The people believe that eating bamboo shoots makes people strong and tough. This explains why nearly every home in the northeast has bamboo groves in the backyard.

Many make a living by weaving bamboo baskets and selling fermented bamboo shoots. From cradle to grave, bamboo is part of life. (Read about bamboo biodiversity on page 64)

FRIED BAMBOO SHOOT

Bamboo shoots - 1/2 kg

Onions - 2-3

Green chillies - 5

Turmeric - 1/2 teaspoon

Salt - to taste

Slice, wash and fry bamboo shoots. Fry onions and 5 green chillies. Add the bamboo, along with turmeric and salt

AKIBIYE

Colocasia - 500 gm

Bamboo shoot - 100 gm

Salt - to taste

Boil two-and-a-half cups of water, and add chopped colocasia in it. Cook till they are tender. Add chopped bamboo shoots and continue boiling till the mixture becomes thick. Add salt

IRONBA

Potatoes - 5

Fresh or fermented bamboo shoots - 100 gm

French beans - 100 gm

Cabbage - 100 gm

Green chillies - 4-5

Peel potatoes and pressure cook along with bamboo shoots, french beans and cabbage. Mash the vegetables to a fine paste. Add crushed green chillies and salt. Garnish with coriander leaves

ROTUAI

Bamboo shoots - 1/2 kg

Green chillies - 50 gm

Salt - to taste

Boil bamboo shoots and green chillies. Grind the chillies along with salt. Chop the shoots and mix them in the chilly paste. Serve with rice





Bamboo



There are 2,000 different species of bamboo in the world. Of them, 130 are available in India. In fact, India has the world's second largest supply of bamboo. It is found growing in forests, homesteads and private plantations. Since bamboo responds best to the forest ecology, it survives best there. As the forest cover in the country is suffering due to agricultural activities, plantation forestry and climate change, the plant is in danger.

Dendrocalamus strictus and *Bambusa bambos* are the two drought tolerant genera inhabiting the Shivalik Hills. A few species of the genera *Bambusa*, *Dendrocalamus* and *Drepanostachyum* thrive in the subtropical middle hills of the western Himalayas. The temperate forests in the Himalayas are more favourable for the genera *Himalayacalamus*, *Thamnocalamus*, and *Yushania*. Bamboo plants cover 9,883 sq km in Andhra Pradesh, dominated by three species—*Dendrocalamus strictus*, *Bambusa bambos* and *Dendrocalamus hamiltonii*. In Jharkhand, bamboo forests are spread across 843 sq km. Assam supports 29 species of bamboo.

This evergreen grass boasts of an extensive root system which holds and stabilises the soil on slopes and river banks. They are well known for raising the watertable. The plant grows at a fast rate; shoots of some species gain 70 centimeters in a day. It is possible to derive 10 to 20 tonne/hectare/year of biomass from these plantations and thus, sequester substantial amounts of carbon. An acre of bamboo stores about 6.88 tonnes of carbon per year, roughly 70 per cent more than an acre of hardwoods.

There are 1,500 documented ways in which the crop is used around the world and more than 2.5 billion people participate in bamboo trade. It can substitute wood for the manufacturing of pulp and paper. Already, 25 per cent of the fibre consumed every year in the Indian paper industry is extracted from bamboo. The plant can also be exploited to produce biofuel.



A juicy fruit of dry areas

P Pushpangadan

KARANDA SABZI

Karanda fruits - 1 kg

Green chillies - 250 gm

Turmeric powder -

1 teaspoon

Vegetable oil -

2 tablespoons

Salt - to taste

Take *karanda* fruits and chop them into two pieces. Remove seeds. Chop green chillies. Heat oil in a wok, put the *karanda* fruits along with chopped chillies. Add turmeric powder, and salt. Cook for 10 minutes and then serve

see recipe for pickle
on page 114

Karanda is cultivated for its edible fruits in Rajasthan, Gujarat and Uttar Pradesh. A number of varieties are common, according to taxonomists, they all belong to two species — *Carissa congesta* and *Carissa carandas*.

Karanda is drought-resistant and cold-tolerant. But it grows and profusely bears fruits in well-drained soil. In north India, it yields fruits during May-July but it may bloom throughout the year in the country's southern parts. The fruits are a good substitute for gooseberries. The unripe ones are sour and are used in pickles and chutneys. The ripe fruits are sweet and can be eaten as such, or used in salads, jellies, puddings, jams, juices, carbonated drinks or wine. The seed within is bitter and should be removed before cooking.

The fruits are rich in minerals and vitamins. They contain chemicals such as lupeol, sitosterol, tartaric acid and citric acid, which are good for health and have a cooling effect. *Karanda* is valued in Ayurveda. Its leaves, fruits and seed latex are used for treating rheumatoid arthritis, anorexia, indigestion, colic, piles, cardiac diseases, oedema, amenorrhoea, fever and blood pressure by Ayurvedic physicians.

According to *Siddha* system of medicine, the seeds and latex can cure worm infestation, gastritis and dermatitis. An extract of roots prepared in alcohol exhibits cardiogenic (good for the heart) and anti-hypertensive properties (effective against high blood pressure). Roots come handy while making insecticides and flowers yield an aromatic volatile oil.

Karanda wood is used for making combs, spoons and other household items. It can be used to make many more products which can be marketed easily given the present popularity of eco-products. It will also provide employment to the poor. (Read about the *karanda* tree on page 112)

Bitters for starters

A typical Bengali meal is eaten course by course. **KAUSHIK DASGUPTA** shows how the tradition helps refine taste buds

The times spent with my grandmother in her kitchen, the *ranna ghor*, are among my favourite childhood memories. I called her *ma* and loved huddling up with her while she crushed spices on a pentagonal slab of stone—the *sil*—with a *nora*, a black oblong pestle.

One of her favourite stories was about the *sil* and *nora*. The stones were my great grandfather's first buy for his wife—*ma* would note that her mother-in-law would have preferred a sari or perhaps earrings.

Ma gave up on the stones once. This was when my parents bought a mixer grinder. But she recoiled at the machine's first performance. The spices had been ground to dust and they could not be worth any flavour.

Ma was not a stickler for culinary tradition. Knives and peelers had their place in her kitchen, but it was the *bonti* she was most comfortable with. A carved iron blade fitted on a wooden stand, the *bonti* was sharp enough to cut off the head of the toughest carp and safe enough to peel vegetables. I would bid her goodbye for school while she sat working the *bonti*. The cricket score would be on my mind when I returned but *ma* had her way of weaning me away from my favourite sport. She was a great raconteur and many of her stories were about her late husband. Grandfather, by *ma*'s accounts, was a frugal eater. But he used to be upset if a generous spread was not there on the dining table.

Much as I prided on an ancestry of food

connoisseurs, I knew these nostalgic accounts would be followed with *ma* dishing out *neembegun*—brinjals sautéed with salt and mixed with tender neem leaves fried to papery crispness. I came to appreciate the subtle sweetness of the brinjals counterposed with the bitterness of neem leaves much later in life.

I did not, however, baulk at all the bitters. During summer days, a pot of yellow *moong dal* acquired a refreshing twist with the addition of *karola*—bitter gourd—green chillies and ginger. On Sundays and holidays, I looked forward to the *shukto*.

On these days, *ma* would begin work a little earlier than usual. She would chop the bitter gourd into inch-long pieces, cube pumpkins and slice radish. The vegetables were stir-fried and soon our house would be filled with the aroma of *panchphoron*—a mixture of mustard seeds, black cumin, cumin, fenugreek and fennel seeds. The *shukto* was the last to be cooked, for it must be served piping hot.

Later, as a student of history I found evidence for *ma*'s belief. The food writer Chitrita Banerji notes that a 11th century collection of proverbs recommends eating bitter gourd during the Bengali month of *Chaitra* when the sun is at its unforgiving worst.

With *ma*'s passing away, *shukto* became infrequent at our eating table. But only till my mother retired. My sister and I are often at the receiving end of her jibes for using cutlery. Food has to be appreciated first with the fingers and then with taste buds.





Ma too would have insisted on our using fingers to mix rice with *chachhari*—a medley of brinjals, pumpkins and radish cooked in mustard that followed the bitters.

Then came the *machher jhol* or the fish curry, there was mutton sometimes. Fresh fish pieces were fried with salt and turmeric and then cooked into a gravy dish. The meal would conclude with chutneys—green mango in mustard flavoured syrup or a tomato and date mix.

My mother is not as fastidious about eating food in courses. But sometimes she recollects what *ma* would say: bitters prepare the palate for a meal, the vegetables soothe the taste buds before you could satisfy your craving for fish and meat. And after a heavy meal the chutney cleanses the palate. You could then savour the sweet.

SHUKTO

Bitter gourd - 100 gm

Raw banana - 1

Beans - 150 gm

Pumpkin - 100 gm

Radish - 1

Ginger paste - 2 teaspoons

Mustard seeds paste - 2 teaspoons

Salt and sugar - to taste

Mustard oil - 4 tablespoons

Panchphoron - 2 teaspoons

Chop vegetables. Heat oil and add bitter gourd. Fry till tender. Add other vegetables, ginger paste, salt and a little sugar. Stir at low heat. When the vegetables are half cooked, add a cup of water. Add mustard seeds paste and boil till the vegetables are almost cooked. Add the panchphoron. Cook till the water dries. Remove from fire and serve hot

Feast on this



Reinventing the dull *raita* or the staid old *aloo paneer* is easy. Just add *makhana*.

MAKHANE KA RAITA

Makhana - 2 fistfuls

Curd - 250 gm

Salt, roasted cumin seed powder and green chillies - to taste

Soak *makhana* seeds in lukewarm water for a few minutes. Whip curd. Add salt, roasted cumin seed powder and chopped green chillies. Squeeze water out of *makhana* and mix thoroughly with the curd. Serve chilled with meal

see recipe for breakfast on page 11

MAKHANE KI SABZI

Potatoes - 2

Cottage cheese - 100 gm

Tomato - 1

Onion - 1

Cumin, turmeric, chilli
powder, coriander powder
- 1 teaspoon each

Salt - to taste

Makhana - a fistful

Boil potatoes and cut.
Chop the tomato and
onion. Take oil in a pan,
add cumin, turmeric, chilli
powder, coriander powder
and salt. Add tomato and
onion, followed by
potatoes and pieces of
cottage cheese. Add
makhana to thicken the
gravy. The curry will
become creamy, rich and
nutritious





Condiment of the gods

D J Narain

Sesame seeds (from the plant *Sesamum indicum*) are one of the oldest condiments known to humans and believed to be the first crop grown to extract edible oil. The first evidence of sesame dates back to 3000 BC. In Assyrian mythology its origins are even older: myth holds that the gods imbibed the sesame seed wine a night before they created Earth.

The plant and its seeds have gained popularity now in many parts of the world. In India, *til* (as sesame seeds are known in north India) is an essential ingredient of many sweets and desserts, especially the ones made for *Makar Sankranti* festivities.

Til is also used in the preparation of some vegetables and pulses. The nuttiness of the seeds makes it perfect for ice-creams, cookies, cakes, muffins and chocolates. Sesame oil is often used as a substitute for olive oil in some pharmaceutical preparations. The oil works well with salads.

Sesame seeds are an alternative source of calcium for people with milk allergies. An anaemic person can benefit a lot from black sesame seeds. Earlier, they were used to induce abortion, as one tablespoon of the ground seeds with an equal quantity of palm jaggery causes uterine contractions and expels the fertilised ovum. The seeds also aid in treatment of piles. A bandage of sesame seeds or a mixture of sesame seeds and limewater is a salve for ulcers and burns. Other parts of the plant are quite useful—cologne can be made from sesame flowers; sesame oilcakes are rich in proteins and can be used as cattle feed.

TIL KE ALOO

Potatoes - 8

Cumin seeds - 2 teaspoons

Mustard seeds

- 2 teaspoons

Sesame seeds

- 4 teaspoons

Pepper - 1 teaspoon

Lemon juice - 2 teaspoons

Chop boiled potatoes into big pieces. Heat 4 teaspoons of oil and add cumin, mustard and sesame seeds. As soon as the seeds begin to pop, add potatoes. Put salt and pepper. Cook for a while, add lemon juice and serve

see recipe for patti and laddoo on page 167

Fermented flavour

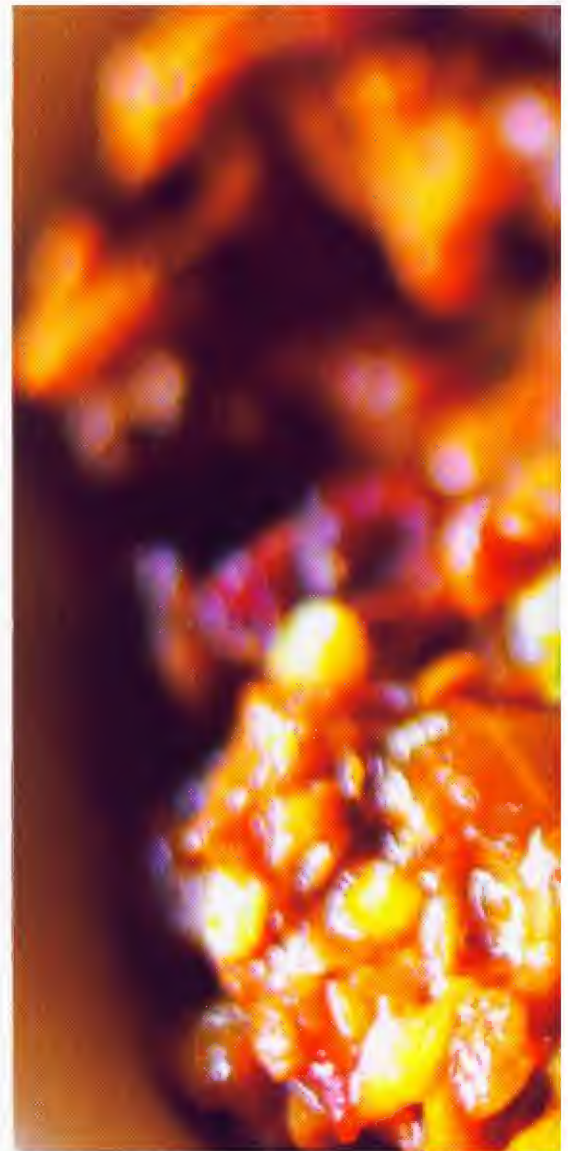
Sarika Atreya

Fermented soybeans or *kinema* is a popular traditional food of the eastern Himalayan region. It is a cheap source of protein, vitamins and minerals in the region. It is commonly consumed with boiled rice. It can also be eaten as pickle or chutney. *Kinema* derives its name from the Limboo word “*kinambaa*” (*ki* means fermentation and *nambaa* denotes flavour).

Limboo is an ethnic community living in parts of Nepal, Sikkim and Darjeeling. It is assumed that the Limboos started *kinema*'s production and consumption. Different communities have evolved their own versions of *kinema*. In Sikkim, the Lepchas consume it as *satyangser*, the Bhutias as *bari*, as *akhuni* in Nagaland, *hawaijar* in Manipur, *turangbai* in Meghalaya and *bekanthu* in Mizoram.

The fermentation process varies from place to place and the technique is passed on from mother to daughter. The microbes that bring about the fermentation are partly present in the stone grinding apparatus and partly in the leaves that are used to wrap the processed soybean. During fermentation, soy proteins are hydrolysed into easily digestible peptides and amino acids.

It is also an important source of income for many families now. Women mostly sell it in the weekly markets called *haats*. Raw *kinema* is packed in leaves of *Ficus hookeriana* tree, tied with straw. The shelf life of fresh *kinema* (without refrigeration) is two to three days during summer and a maximum of one week in winter. *Kinema* can also be sundried and then stored for several months. Fresh *kinema* contains varied concentrations of several vitamins—thiamine, riboflavin and niacin. It is packed with minerals. (Read about other pulses on page 76)





PREPARING KINEMA

Soak soybean seeds overnight. Boil them till they become soft. Drain water and mash beans. Mashing helps accelerate fermentation as it increases the surface area available for the growth of aerobic spore-forming bacteria. Place grits in a bamboo basket lined with locally grown fresh fern fronds. Place the mashed beans on the grits and then seal the basket with the help of ficus and banana leaves. Cover the basket with a jute bag and place it over a hearth or any other warm place for fermentation. Appearance of a white viscous mass and a slight ammonia-like odour indicates the completion of the fermentation process.

CURRY

Kinema - 250 gm

Onion - 1

Tomato - 1

Turmeric - 1 teaspoon

Green chillies - 4

Salt - to taste

Heat a little oil in a pan. Add chopped onion, followed by a pinch of turmeric powder and chopped tomato. Fry the mixture for two minutes. Add kinema, chopped green chillies, some water and salt to taste. Let the dish simmer till the gravy becomes thick. Garnish with chopped coriander leaves and serve hot with boiled rice

T

here are about 700 types of legumes in the world but only a handful are traded commercially as food. These include the pulses, an integral part of Indian diet. For vegetarians, pulses are the most easily available source of protein. There is archeological evidence to show that pulses were domesticated early in most centres of origin. In the old world, remains from Hacilar in Turkey and Beidha in Jordan show traces of domesticated peas, beans and lentils (species of *Pisum*, *Vicia* and *Lens*). In the new world, beans were more popular— common beans (*Phaseolus vulgaris*), runner beans (*Phaseolus coccineus*) and tepary beans (*Phaseolus acutifolius*) in central America and lima beans (*Phaseolus lunatus*) in South America.

Dried legume seeds are known as pulses. India has 90 per cent of the total global area under pigeon pea, 65 per cent under chickpea and 37 per cent under lentil. Despite their importance, they are often cultivated in deprived soils and this has led to steady decline in production, resulting in high prices. Lack of a good buy-back policy by the government also deters farmers. This has led to a reduction in consumption.

Arhar or toor (*Cajanus cajan*), moong (*Vigna radiata*), urad (*Vigna mungo*), masoor (*Lens culinaris*) and lobia (*Vigna unguiculata*) are some of the common pulses available in the markets in India. Other than the commercially traded pulses, communities consume legumes specific to the area. Among them is Naurangi (*Vigna umbellata*), eaten by people in Uttarakhand.



Pulses





For the reader's digest

Hoihnu Hauzel

Papaya or *Carica papaya* is a soft-wooded, evergreen tree. It is mostly cultivated in tropical countries. In Manipur, people believe that papaya flowers are the perfect remedy for diabetes. Slightly bitter in taste, the flowers keep sugar levels in control when consumed regularly as a vegetable. In the northeastern states of India, people rustle up delicacies from the raw papaya. Across the country, the raw fruit is used to soften meat and enhance its flavour.

Papaya is replete with proteins, minerals and vitamins. Its vitamin C content increases as the fruit matures. The fruit has remarkable medicinal values. It is not only one of the most easily digested fruits, but also aids the digestion of other



Papaya salad

PAPAYA SALAD*Unripe papaya - 1 kg**Gram flour - 2 tablespoons**Red chillies - 3-4**Salt - to taste*

Peel unripe papaya. Cut it into thin slices. Fry gram flour on a griddle till it turns golden brown. Roast the red chillies and then grind them. Add salt. Sprinkle the mixture on papaya slices. Garnish the dish with finely chopped onions and coriander leaves

PAPAYA AND DAL*Black beans - 200 gm**Grated, unripe papaya - 2 cups**Fenugreek - 1 teaspoon**Ginger paste - 1 teaspoon**Salt and sugar - to taste*

Boil black beans. Heat oil in a wok and add fenugreek seeds. When they start sputtering, add ginger paste and dal along with grated unripe papaya. Fry for about 10 minutes. Then add two-and-a-half cups of water, salt and sugar. Cook till the papaya and dal become tender. Serve with hot rice

PAPAYA FLOWER FRY

Take fresh white flowers of papaya and wash them. Fry them for two minutes and add salt to taste. Serve with hot rice

foodstuffs. Papain in the raw papaya is beneficial to combat several health problems—deficiency of gastric juices, excess of unhealthy mucus in the stomach, dyspepsia and intestinal irritation. The ripe fruit, if eaten regularly, corrects habitual constipation, bleeding piles and chronic diarrhoea.

The juice of the raw papaya is useful to cure several skin diseases—it is applied on swellings to prevent pus formation; it can also help treat corns, warts, pimples, horn and abnormal outgrowth of the skin.

The milky juice of the unripe papaya is a must against stomach worms. A tablespoon of the fresh juice along with the same quantity of honey and three to four tablespoons of hot water is an ideal dose for adults. (Read about the medicinal value of papaya on page 80)

O

ne can always spot a vendor early in the morning selling slices of papaya outside jogging parks. Most of papaya's medicinal qualities, which make it popular and a frequent ingredient of people's diet, can be attributed to the enzyme papain. It breaks down proteins and thus, makes them easily digestible. The enzyme itself is used in various industries—be it breweries, pharmaceuticals, food, leather, in detergents or for processing meat and fish.

Papain resembles pepsin and aids in digestion. As the fruit is rich in fibre, it is an excellent remedy for constipation. It reduces inflammation, is good for treating internal injuries and cures arthritis. Papaya prevents cancer of the digestive tract. It can also be used to treat burns, prevent heart diseases, reduce cholesterol and prevent cataracts. The fruit is rich in vitamins and has antioxidant properties.

Papaya is a popular lifestyle fruit and is in high demand for beauty treatments. Folate and minerals present in the fruit help to keep the skin healthy and clean. Christopher Columbus described papaya as 'the fruit of the angels'. This tropical fruit is native to southern Mexico and the neighbouring South America but is now found in India, the Philippines and parts of Africa. It is believed the Portuguese explorers introduced papaya to all these regions.



Papaya: *Carica papaya*



Against the grain

Market-dependent food practices are swallowing up indigenous food habits, **APARNA PALLAVI** reveals



An elderly man, Nabbu Supari Tekam, of a tribal community living in the tiny Kolam village of Yavatmal district in Maharashtra loves this story:

Villagers had applied for Below Poverty Line cards, as suggested by a non-profit, but did not receive any for years. Then the non-profit invited the District Collector to survey living conditions of the villagers. The collector, a staunch vegetarian belonging to the Jain community, was appalled when she saw people eating crabs, or in her words “surviving on distress food”. Crab is a delicacy for the tribals and

traditions of nutrition and health based on the knowledge of forest herbs and meats.

Dilasa, a non-profit, has mobilised tribal elders in 12 villages, mostly women, to collect information on wild plants. The women have documented 76 such plant varieties, along with their nutritional and medicinal properties. They have resurrected old recipes for cooking these, and also created new ones. This study discovered that staple food among tribals was never grain as is popularly believed but wild greens. Bahinabai Narnavre, a knowledgeable septuagenarian from

Green to grain

One reason for the decline in consumption of wild vegetables is modern agriculture with its emphasis on grains and pulses—commodities that can be stored. Kusum Karnik, veteran forest rights activist and head of Shashwat, is forthright on this one. “In our area, we first encouraged the expansion of agriculture working for what we called food self-sufficiency. It was 20 years later that we realised that we had destroyed the tribals’ unique nutrition system which was far more self-sufficient and sustainable than ours. Now the new generation is used to the



Eat and heal: (from left to right) katwal fruits are eaten to tone the digestive system; bitter ikdodis are consumed once a year to keep away worms and feverish tendencies; vaasan that can survive 14 years of drought is revered as a survival food

city-dwellers alike, but it made the collector conclude that people were on the verge of starvation. The cards were issued in three days. “She does not know how good crabs are,” says Tekam, laughing.

This is just an amusing anecdote for the villagers, but it is also a cause of concern. In this tribal belt of central India, indigenous food and nutrition practices are fast losing out to the market-dependent practices.

Information collected by non-profits indicates that this trend is adversely affecting the health and economies of tribal populations. The tribal populations have had well-developed

Ghatanji tehsil, says, “The typical *dal-rice-chapati* meal was only a four-month luxury for us. Our food mainly consisted of large quantities of *bhaji* (greens).” Switch over, she thinks, has been an important cause of rising health problems. “You will find more cases of joint pains, anaemia and fatigue in my daughter-in-law’s generation than in mine. Grain does not have as much strength as *bhaji*, so people age fast.”

In Manchar area of Pune, a non-profit, Shashwat, has been working with Mahadeo Koli tribals since 1980, and has collected a database of 40 varieties of wild vegetables.

new food and is unwilling to change,” says Karnik.

Expansion of agriculture, says Karnik, has also increased the workload on women, who no longer have time to go into the forest to collect vegetables and fruits. Increased urbanisation and cash dependency also forces tribal farmers to grow cash crops. Anusuyabai Meshram of Vasari village, Yavatmal, one of the rare people who still protect and consume wild vegetables, expresses concern: “Earlier, farmers used to protect these vegetables, but now they either uproot them even before seeds are formed or kill them with seed killers.”

Recreating magic with *bajra*

Jagdeep Gupta

Winters make me recall grandpa's innumerable lessons meant to familiarise us children with the crops growing in our fields in Ambala. *Bajra* (pearl millet or *Pennisetum glaucum*) would always fascinate me with its sturdiness. It can grow in sandy soil, high temperatures and can make do with little water. We went to Ambala in vacations every year packed with excitement, but more than the lessons we were keen on eating the delicacies grandma cooked for us.

All the kids were assigned the task of organising a bonfire every night out of dry straw collected from the fields. We used to feel extremely important doing this bit of work. And then it was left to grandma to make *bajre ki bhakri* and other delicacies on the bonfire.

My favourite was *bajre ki kheer*. Sadly, nobody in my family has been able to recreate that taste. Maybe because there is no bonfire anymore and nor is granny's warm and loving touch.

Most families now have just about enough time to put together ready to mix recipes and instant food, thanks to the hectic city life and job stress.

The other day, as I was basking under the winter sun at home, I had this epiphany which came with a sense of guilt. Like us, our children also must know what it means to eat nutritious and delicious home-cooked food such as *bajra kheer*, *khichdi* and *bhakri*.

I called my mother and brushed up on the *bajra* recipes. To my delight, my children loved them.

BAJRA KHICHDI

Whole bajra – 2 cups (soaked overnight)

Green lentil – 1/2 cup (soaked overnight)

Peppercorns – 5

Cloves – 3-4

Cumin seeds – 1 teaspoon

Asafoetida – a pinch

Turmeric powder – 1/4 teaspoon

Pure ghee – 1 teaspoon

Water – 5 cups

Grind *bajra* coarsely. Wash the dal. Heat ghee; add peppercorns, cloves and cumin seeds. When cumin seeds crackle, add asafoetida, turmeric, salt, dal, *bajra* and water. Cook on medium flame. Stir when the mixture begins to boil. Cook until the *bajra* is soft. Add more water to get the preferred consistency. Serve hot with ghee or yoghurt, pickles and *papad*

BAJRA BHAKRI

Bajra flour – 2 cups, some more for dusting

Water as required (lukewarm gives better results)

Sieve *bajra* flour on a flat surface. Add salt and water. Knead till the dough is smooth and pliable. Roll the dough into round *chapatis*. Put the *chapatis* on a flat skillet and roast both sides. To prevent dryness, sprinkle water on the portion not exposed to heat. Serve hot with dry chilli-garlic pickle.

Note: To make sweet *bhakri*, called *meetha mann*, add jaggery syrup while kneading the dough

see recipe for *kheer* on page 152



Bajra khichdi



88 • Taste of India's biodiversity

Humble offerings

V K Madhavan Kutty

Boiled or steamed low-oil foods are typical of Kerala. *Kanhi*, though, has a special place in its socio-cultural fabric. *Kanhi* prepared with *podu ari* (broken rice), which is easier to digest, is used as a weaning food.

It is said in Kerala: "*Onam vannaalum, unni pirannalum, koranu kumbilil kanhi*" (whether it is the Onam season or the birth of a baby, a poor person's bowl contains only *kanhi*). People with even a little to spare actually avoid *kanhi* through 10 days of Onam. Though consumed in every household, it is culturally established as the poor person's food. *Annadaanam* (distribution of food to the poor) is called '*kanhivizhuthu*' in Kerala, which literally means pouring *kanhi*. Interestingly, *kanhi* is also used as a term of abuse. Of course, the affluent have their variations of the humble *kanhi*. There is *palkanhi* (*kanhi* cooked in milk), or one could add a touch of ghee, coconut milk or grated coconut. There are side-dishes that could spice it up further: *payaru puzhukku* (which is the traditional combination with *kanhi*), *pappadam* (fried or roasted crispies) and coconut chutney. The poor have their own set of side-dishes: tapioca, *erisseri* (a gravy preparation made with pumpkin) and pickle.

Podu ari kanhi with boiled green gram is also given to ailing people, old persons and children as it is nutritious and easy to digest. It is the traditional breakfast on *vishu* (first day of the Malayali calendar). Traditionally, *kanhi* was served in little bowls made of banana leaves and spoons made of jack-fruit leaves. The leaves add a special flavour. (Read about the rice varieties in India on page 88)

KANHI

Half a kg of rice is cooked with plenty of water. Scraped coconut can be added to the *kanhi* before it is served

PAYARU PUZHUKKU

Green gram - 1/2 kg

Turmeric - 1/2 teaspoon

Cumin seeds - 1 teaspoon

Red chillies - 3-5

Ground coconut

Salt - to taste

Soak green gram (*payaru*) for an hour before cooking. Sprouted green gram can also be used; it is more nutritious. Add turmeric and salt, and cook the green gram in a pressure cooker. Grind coconut, cumin seeds and chillies together. Heat oil in a vessel and burst mustard seeds in it. Put in coconut-cumin seed-chilly mixture, followed by green gram. Sprinkle with scraped coconut and serve

PUMPKIN ERISSERI

Green gram - 2 cups

Pumpkin - 250 gm

Turmeric - 1 teaspoon

Red chilli powder - 1 teaspoon

Cumin seeds - 1 teaspoon

Red chillies - 4

Tamarind - size of a lemon

Garlic - 3 cloves

Take green gram and pumpkin. Cook with water. Grind cumin seeds, chillies, tamarind and garlic and add turmeric and red chilly powder to the paste. Add this paste to the cooked green gram and pumpkin. Heat a little oil in a vessel, and burst some mustard seeds in it and put the gram-pumpkin-spices mixture in it. Cook for a few minutes

Rice: *Oryza sativa*





An indispensable source of carbohydrates, proteins, minerals and fibres; rice is one of the three major food crops and is grown worldwide. Rice is grown in 30 per cent of the total cultivated land in India. A third of the world's total area under rice cultivation is in India. Rice is the main source of food for more than 55 per cent of the country's population and provides livelihood to over 70 per cent of the population.

The genus *Oryza* consists of 23 wild and weedy species and two cultivated species of rice, viz., the Asian *O sativa* and the African *O glaberrima*. Rice is divided into two groups based on whether it provides nourishment or serves as a medicine.

Basmati is the most popular variety of rice, chiefly cultivated in India and Pakistan; it translates as 'the fragrant one' from Sanskrit. It has long grains which remain fluffy and separated after cooking. It is available in white and brown varieties. There are some other well known varieties in India. *Ambemohar* rice is grown on a large scale in Maharashtra. This variety is soft, easy to chew and smells like blossoming mango trees when cooked. *Kumeru* rice, cultivated mainly in the hilly areas of Karnataka, is a drought-resistant variety. The traditionally grown variety of Karnataka is *Kayame* rice, resistant to both drought and salinity. *Orkaima*, *Pokkali* and *Kuttadan* varieties of Kerala too are salt-resistant and grown indigenously.

Rice cultivars like *Kalavarihi* are nourishing and *Kalama*, *Pundarika*, *Panduka*, *Shakunahrit*, *Sugandhaka*, *Kardamaka*, *Kanchanaka*, *Mahasali*, *Mahishamastaka* and *Lodhrapurshpaka* have medicinal value. People in Chhattisgarh treat infants suffering from small boils by feeding the lactating mother with *Alcha* variety. Inhaling the fumes of the bran of the *Bassior* variety is said to cure headache.



Singhare ki puri

SINGHARE KI SABZI*Water chestnut - 250 gm**Potato - 1**Asafoetida - 1 pinch**Cumin seeds**- 1 teaspoon**Turmeric - 1/2 teaspoon**Chilli - 1 teaspoon**Coriander - 1 teaspoon**Lemon - 1**Salt - to taste*

Peel and cut water chestnut and potato. Take some oil in a pan, add asafoetida, cumin seeds, salt, powdered turmeric, chilli and coriander powder. Add vegetables. Cover and cook till soft. Squeeze a lemon and garnish with coriander leaves (optional)

SINGHARE KI PURI

Water chestnut flour cannot be rolled into *puris* easily. Boiled potatoes have to be added to the dough. They are then ready to be rolled into *puris* and fried

see recipes for a sweet dish, *katle*, on page 162

From shallow waters

Vibha Varshney

Nutrient-rich water chestnuts (*Trapa natans*) need only a culinary imagination. Succulent, slightly crunchy and delicately sweet, water chestnuts are munched raw, seasoned or sautéed, and even ground to make flour. This last quality makes it a favourite among those in northern India who abstain from cereals during religious fasts: the flour (*singhare ka atta*) is a staple in many households during the October-November festive season. *Puris*, *sabzi* and a sweetmeat called *katle* are some popular items made from water chestnut flour.

Water chestnut grows in many parts of India, Pakistan, Sri Lanka, Indonesia and southern China. Though native to South and Southeast Asia, water chestnuts are also found in Africa and North America. The plants grow well in ponds, lakes and even shallow streams.

Harvested between October and December, water chestnuts are valued in traditional systems of medicine, such as the Ayurveda, for their cooling and astringent properties. They are reputed to reduce heartburn, fatigue and inflammation and are also useful against blood disorders, urinary tract infections, bad breath, toothaches and dehydration. So, just chomp on a water chestnut. But be a little careful: the plant grows in stagnant ponds, so water chestnut fruits should be washed well before peeling.

Root of a pink glow

Shalini Misra Dhyani

White radish is very popular but there are lesser known varieties: black, red, purple, rose and lavender. The pink variety is a traditional winter vegetable in the Garhwal region, where it is known as *mula*, which in the local language means root. There are references that radish (*Raphanus sativus*) was grown in China around 500 BC where varieties with larger roots and mild taste were developed.

Mula was once a prominent crop in Uttarakhand. Though cultivation has gone down, a few hybrid varieties are available in big stores. Sharp in taste—it belongs to the mustard family. Ninety per cent of *mula* is made up of water. It is as rich as bananas in potassium and has about half as much ascorbic acid as oranges. Radish is also an excellent source of magnesium and vitamins A, B, C and E. People in Garhwal consider the pink radish to be a panacea for diabetes; it helps lower cholesterol and enhances metabolism. It is said to be antiseptic, anti-arthritis, anti-rheumatic and combats scurvy and rickets. A soup made with its leaves can expel body heat. Toasted radish seeds mixed with honey work as an appetiser and can soothe the respiratory tract. Though the pink variety is still eaten, the younger generation is not familiar with recipes.

You can treat yourself to a meal of only radish—soup, *parantha*, *saag*, *raita*, salad, chutney, pickle, *kufli* and *thechwani*. Cooked radish is often added to soups and stews.



THECHWANI*Radish - 3-4**Potatoes - 2**Onion - 1**Tomatoes - 2**Ginger - 1 inch piece**Garlic - 7-8 cloves**Red chillies - 2-3**Cumin - 1/2 teaspoon**Carum- 1/2 teaspoon**Chilli powder - 1/2 teaspoon**Coriander powder**- 1/2 teaspoon**Asafoetida - a pinch**Salt - to taste*

Peel radish and potatoes and crush them. Heat oil, add asafoetida, cumin, carum, chillies, garlic and ginger paste. Add chopped onion, tomatoes and salt. Cook well. Put turmeric, coriander powder and red chilli powder. Add crushed radish and potato and cook for 5 minutes. Add water according to the desired consistency of the gravy. Cook on a slow flame for 30 minutes. Garnish with coriander leaves and serve with steamed rice



Celebrating food security

RAVLEEN KAUR goes to a festival that revives traditional farming and lifestyle

It was a busy Sunday in Chaina. Elderly women got up early to prepare dishes they had not tried their hands on for years. The verandah of the primary school in this village of Punjab was spruced up and tables lined in a row. By afternoon, the women brought in the delicacies.

About 500 people turned up to savour them. For starters, there was *gur ka sharbat* and *thandai*; *bajra* and *moth khichri*, *makke ki chapatti*, *cholai ka saag* with garlic chutney for the main course, *bhoot pinna* and gram flour *halwa* as dessert.

The village in Faridkot was celebrating *trinjan*. The fete was organised to revive this old tradition. Till about a few decades ago, women in villages across Punjab used to get together every evening after winding up the day's work. They would sing, dance and gossip as they sat with their *charkhas* and needlecraft. Since ready-made cloth is available in the market, no one spins or embroiders anymore.

A non-profit, Kheti Virasat Mission, took the initiative to breathe life into the lost food habits and lifestyle's of the villagers. Naseeb Kaur, an old woman in her 70s, prepared *gur ka sharbat* (a squash of lemon juice and jaggery) almost after 40 years. "*Gur ka sharbat* was a routine drink for farmers, especially in summers. It acts as

an energiser and a coolant," she said. "Look at them, all lean and thin," she said pointing to her grandchildren. "Children today are just not fit. They drink Coke and Pepsi."

None of the youngsters had tasted such food. "I liked *gur ka sharbat* and *thandai*," said Harmanjyot Kaur, an 18-year-old college-goer. "I also liked *khichri* and *puda*, but can't have them every day, they are high on calories," she added.

Gulab Kaur came forward to defend her friend. She says that the present generation finds it heavy because they do little physical exercise. But calories hold the secret to the distinct flavour. Gurdeep Kaur divulged the secret of her *puda*: "You have to fry it in *ghee* for that flavour."

The most popular snack at the fete was *bhoot pinna*. "These dry sweet balls are made of jaggery and coarse grains like sorghum, pearl millet and maize. We used to prepare them in the winters," said Hardeep Kaur. But this delicacy is fast losing currency. *Bhoot pinna* is now only confined to festivals like *lohri* as children prefer the *rewri* and *gajjak* available in the market.

"Children don't like millets. Their tastes have changed," lamented Hardeep Kaur. Gurdeep Kaur chipped in, "When we were young, *khichdi*, millet porridge and milk rich with dollops of



ghee used to be the staple, and not *chapatis*."

Umendra Dutt, executive director of Kheti Virasat Mission, said, "Food habits have changed from coarse grains to rice. Once millets used to be the traditional crop of water-scarce Punjab."

The state promoted wheat and rice farming following the Green Revolution



in the 1960s. Groundwater exploitation and contamination of food by pesticides, thereafter, became a norm. The revival of *trinjan* is to reconnect food security, nutrition and seed conservation, he said.

Later, women spun yarn on *charkhas* to the tunes of *trinjan* songs sung by Bhagwan Kaur and Lajwanti Devi, both in their 80s. None of the

youngsters were familiar with them.

Naseeb won the competition for fast weaving. "I spun all the clothes for my four daughters, never buying a piece from the market," said an overwhelmed Naseeb. "We even gifted *charkhas* to our daughters on their weddings," she said.

If not through spinning, self-reliance can be achieved via kitchen

gardens, suggested Amarjeet Kaur, the chief guest; she works with the non-profit. "People can grow vegetables and millets in their backyard," she said. It was getting dark and the food on the table had finished. As people stroked their satisfied bellies, Dutt felt reassured: "To bring millets back in the field, we first need to bring them back in the kitchen."

PANCAKE MEAL

KHUREE

Buckwheat flour - 300 gm

Warm water - as required

Put buckwheat flour in a large bowl. Slowly pour warm water into the flour, stirring constantly until you have a runny, *dosa*-like batter. Heat a flat girdle. Pour a large serving spoonful of batter on to the girdle and quickly spread it into a large round. When the pancake changes colour (in less than a minute) either turn it over if you have spread the batter too thick or lift it off the girdle

SAAG

Green squash leaves, mainly the upper tendrils, finely chopped (spinach leaves can be used as a substitute) - 500 gm

Onion - 1

Tomato - 1

Salt - to taste

Fry chopped tomatoes and onions in a little oil. When these soften, add the chopped leaves. Season with salt. Cover and simmer until cooked. Cool before using it as a pancake filling

CHUTNEY

Tomatoes - 2

Fresh red/green chillies - 1 or 2

Salt - to taste

Grind all ingredients together

'Floured', by a fruit

Maureen Nandini Mitra

The hardy buckwheat flourishes in Sikkim's acidic soil that otherwise renders farming an arduous task. It grows so thick that it smothers weeds, and adds nutrients to the soil. It is ready to eat in 12 weeks.

Despite its name, buckwheat (*Fagopyrum esculentum*) is not a grain. It is a high-fibre fruit seed that's a good substitute for grains for people who are sensitive to protein gluten in wheat and rice.

Buckwheat features regularly in the diet of Sikkim's Lepcha tribe, who use not just the seeds in flour form, but also the tender greens as a vegetable (*saag*). The seeds are also mixed with millet grains and fermented into a traditional brew, *chhang*.

Khuree, an oil-free buckwheat pancake, is a Lepcha speciality traditionally served during festivals like Namsoong (Lepcha New Year) or Tengong-Lorum-Faat (festival of the Himalayas). The strong earthy flavoured pancakes are eaten either with a spicy tomato chutney (made with a tart, berry-like local variety) or rolled up with a *saag* filling. The *saag* offsets the distinct flavour of the pancakes that might not appeal to all palates.

Khuree is typically a home-made dish, not found in restaurants. Even among the Lepchas, it is losing out to sliced bread and noodles.

Buckwheat can grow in areas as high as 4,500 meters above sea level. It belongs to the family *Polygonaceae* which includes plants like rhubarb (*Rheum rhabarbarum*) and common sorrel (*Rumex acetosa*). The petioles of rhubarb and leaves of sorrel are eaten.

Flowers and green leaves yield rutin, used as a dietary supplement. The seeds are more nutritious than cereals. They have lysine, an essential amino acid for human health



Khuree with chutney



Tap on the tropics

Sebastian Paul

TAPIOCA VEGETABLE

Tapioca tuber - 1 kg

Cumin seed - 1/2 teaspoon

Mustard seed - 1/2 teaspoon

Garlic - 5 cloves

Grated coconut - 1/2 cup

Green chilli - 5

Onion - 2

Red dried chilli - 3-4

Turmeric - 1/2 teaspoon

Curry leaves

Coconut oil - 1 tablespoon

Salt - to taste

Peel and chop tapioca and then boil the pieces till they become soft. Strain the water and mash the tapioca well. Heat coconut oil in a pan and add cumin and mustard seeds. Once the seeds start sputtering, add chopped garlic, green chillies, onions, grated coconut and small pieces of dried red chillies. Fry for a while, and then add a few curry leaves. Again sauté and then add turmeric powder and salt along with the tapioca. Serve hot with rice

I was pleasantly surprised to find boiled tapioca (*Manihot esculenta*) served with hot chutney at a hotel in Fiji. Wherever and whenever I find tapioca (roots of the cassava plant), the richness of Kerala unfolds before me. It came to Kerala from Brazil, thanks to the Portuguese colonisers. Faced with rice shortage, people in Kerala embraced the nutrition-rich tapioca. Tapioca has become an integral part of the state's cuisine.

The tuber crop is not only popular in India, but is an important source of carbohydrates in almost all tropical and subtropical nations. It provides essential nutrients to over 500 million people. Tapioca is popular in the tropics since it can be cultivated in shifting agricultural systems. Furthermore, it is resistant to pest attacks and drought.

Earlier tapioca was considered as the poor man's food because of its low cost. But today it is popular among people from all walks of life due to its nutritional and medicinal value. Tapioca can help prevent heart diseases, reduce the risk of cancer and keep the skin smooth. It is laden with iron along with vitamin C (which helps the body absorb iron). It is also a good source of magnesium, which helps protect the bones and arteries. It also keeps the blood pressure stable.

Tapioca is commonly used as the raw material to make food-grade starch products. The Indian Tuber Crop Research Institute, Tamil Nadu extracted a polymer from tapioca that is biodegradable. It has the potential to replace nearly 40 per cent of the conventional petrochemical-based polymer used in plastic packaging.

Tasty buds

Navneet Raman

In north India, buds of *kachnar* are used to make a delicious curried vegetable dish. Also found in Sri Lanka, *kachnar* has three varieties—red, white and mauve—depending upon the colour of its flowers.

The plant is called *phalgu* in Sanskrit. In Gujarat and Maharashtra, it is known as *asundro* and *pivala*, respectively; Bengalis have lovingly named it *kanchan*. In Andhra Pradesh, it is known as *adavimandaramu* and in other parts of south India, it is called *esamaduga*, *kanchini* or *tiruvatti*.

Kachnar flowers look like orchids, giving the plant the sobriquet of an ornamental tree. *Kachnar* or *Bauhinia variegata* belongs to the *Leguminosae* family which has pulses, beans and pea. The tree is native to southeastern Asia.

Ayurvedic practitioners use the plant's powdered bark as tonic and against skin diseases. The roots are used as antidote to snake poison. Research has shown that some compounds in the roots have anti-inflammatory activity. The bark protects the liver and the stem seems to protect the kidneys.

The usual dosage of dried and crushed parts of *kachnar* is three to six grammes. Fifty millilitres of its decoction can be consumed. But overdose can cause nausea, which can be cured by taking a little black salt with lemon juice.

BASIC PREPARATION

Boil water and soak *kachnar* buds in it for a couple of minutes. Then heat a tablespoon of ghee and add a little bit of cumin, asafoetida and ginger in it. Fry for four to five minutes, and then put the *kachnar* buds in the pan and sauté the mixture for two minutes

KACHNAR KADHI

Kachnar buds - 2 bowls

Curd - 4 bowls

Sugar - 1/2 teaspoon

Salt - to taste

Take cooked *kachnar* buds and add four bowls of diluted curd, salt and sugar. Boil for five minutes and get ready to serve the *kadhi*

KACHNAR AUR CHANE KI TARKARI

Kachnar buds - 1/2 bowl

Fresh green gram - 1 bowl

Turmeric powder - 1/2 teaspoon

Sugar - 1/2 teaspoon

Salt - to taste

Sauté green gram with turmeric powder. Then add cooked *kachnar* buds, sugar and salt. Add water and cook

KACHNAR AUR ALOO KI TARKARI

Tomatoes - 4, chopped

Potatoes - 1/2 kg, boiled

Kachnar buds - 1 bowl

Turmeric - 1/2 teaspoon

Sugar - 1/2 teaspoon

Salt - to taste

Sauté tomatoes along with turmeric powder for two minutes. Add potatoes. Sauté for 10 minutes. Then add *kachnar* buds, sugar and salt. Add three cups of water to the mixture. Cook for five minutes and then serve



Potato vegetable with kachnar buds



On a diet coarse

Savvy Soumya Misra

CORN SOUP

Coarsely ground corn flour
- 100 gm

Vegetables - beans, carrots,
cabbage, mushrooms,
ginger, peas

Lemon - 1

Add water to the corn flour. Mix well to avoid lumps and cook on a medium flame. Add cut vegetables and boil for some more time. When the vegetables become soft the soup is ready. Squeeze half a lemon and garnish with coriander. The tribal communities in Bastar, Chhattisgarh, boil corn for hours till it becomes a thick paste. This paste, called *pasiya*, is helpful in summers and the tribals have it several times in a day

see ragi kheer on page 153 and
recipes for bajra on pages 85
and 152

Is the rising food price making you shrink your dinner spread? Don't go hungry. Try your hand at some millet or corn recipes. It may not only bring down your food budget, but also enhance the nutritional value of your meals. But there is a catch. You will have to visit the weekly village *haat* to buy these coarse grains. Not all are easily available in grocery stores in cities, and those available will cost you as much as wheat or rice. Poor cousins of wheat and rice, millets have become the new exotics in the urban culinary culture. At village, thankfully, you get them at one-fourth the price.

The tribal communities of central India, especially Chhattisgarh and Jharkhand, could very well cushion themselves against the soaring food prices thanks to millets and other coarse grains.

Most of us are familiar with *bajra*, the most common millet, but there are many others—like finger millet or *ragi*, little millet or *kutki*, pearl millet and *kodo* millet. *Kodo* (*Paspalum scrobiculatum*) is not only drought-resistant but can also flourish on poor soil. It can be stored for 20 years without any threat from pests. Tribal communities eat *kodo* millet when the paddy crop fails. Corn too is a crucial part of the diet of tribals in Chhattisgarh.

Cooked just like rice, *kodo*'s fibre content is five times that of rice and calorie content is lower. Mixed with wheat, *kodo* makes a good diet for diabetes patients. Protein-rich *kutki* (*Panicum sumatrense*) too is a good grain substitute for diabetics. It has 20 per cent less carbohydrates than rice and wheat.

An heirloom in muslin

A bacterial strain that shaped **BHARAT LAL SETH**'s idea of hospitality



It is a trip Hardhal Singh Bist has made intermittently over the past two decades. Every time he ran out of starter culture to curdle milk, he would walk to our house and request for some. Bist mans the kitchen of our neighbours. Our relations are cultured by a curd strain that goes back to the 1940s.

In 1942, my grandmother got married in Lahore; the *jaag* or curd strain came in her dowry to Delhi. Packed with her belongings was a muslin cloth her mother had given. It had been dipped in fresh curd to capture bacterial cultures, dried and wrapped with care in paper. Her mother had a gift for making curd. "She would add an edible acidic substance to a bowl of milk and leave a silver spoon in the bowl," Shanta Nagpal, my grandmother's sister-in-law told me. "The milk curdled in due course." At the age of 86, she does not recollect any other detail of her mother-in-law's curd magic. The precise method died with my great grandmother in 1952.

The curd strain, though, survived.

Grandma to nanny

Not having her mother's skills, my grandmother took great pains to preserve the strain. Each day she would use it to curdle milk. It was a daily ritual.

A quiet, reserved person, she barely left home; the only travels of hers I can recall are the annual trips to Shimla she made with my grandfather. In her absence, my mother handled the strain.

In 1983, a week before I was born, my family hired a 25-year-old nanny, K Santosh, a woman who had run away

from an abusive husband in Guntur. I have grown up calling her Amma. My grandmother retained ownership of the family's curd setting ritual. Only in 1994, when her health did not allow her to attend to household chores, did she pass the baton to Amma.

Amma does not like to stray too far from home. Just the kind of person to care for a curd strain like my grandmother did.

In packets

In the Punjabi kitchen, curd has occupied a pride of place. From marinating meat to making base gravy for curries, from refreshing drinks to straight up with a little salt and pepper or jaggery.

But the culture of maintaining starter culture is disappearing.

I spoke to Dinesh Prasad, who runs the Mother Dairy depot in my locality. He could not recall when packaged yoghurt got introduced but is sure it is a big hit. "More and more people pick up a 100-gramme pack on their way to work or back," he said.

Working professionals who no longer live with their families have also settled for the packaged product. For

The curd strain came to Delhi from Lahore in a muslin cloth with my grandmother's dowry



Tania Walia, a friend, meticulous methods of yoghurt preparation are not worth the time. She recently shifted out of her parent's home. Her new address is a five-minute walk from a Mother Dairy depot. Tania told me that the packaged yoghurt is too sour and requires added sugar. "I miss my mother's homemade yoghurt," she said.

Pia Mehra, owner of the popular chain of restaurants Punjabi By Nature, and my mother's friend, is all for homemade yoghurt. Her restaurants set their own yoghurt, an essential ingredient for their best dishes.

Their succulent mutton and chicken marinated in yoghurt are most popular, she says, as is their *raita* (whipped yoghurt). "There is something gratifying about substituting packaged food with a product of your own," she said.

Labour of love

Two households in our south Delhi neighbourhood borrowed the starter culture from us in the 1970s. They established a tradition of sharing. While Bist still maintains the starter culture, Seema Chandra who lives two houses down the street is no longer particular about homemade yoghurt. She developed a penchant for packaged Lebanese yoghurt during her stay in Muscat, Oman.

As for me, my tastebuds are conditioned by my grandmother's and Amma's labour of love. I have felt awkward looking at a measly bowl of yoghurt on the dinner table at a friend's house.

I have come to judge people's hospitality by the way they serve curd.

Eat it bland, eat it pickled

Aparna Pallavi

Think of a farmer hoeing or weeding in the sun for hours. He is hungry and thirsty but does not want to stop for refreshment just as yet. He simply reaches for the small pale peach-coloured cucumber-like fruits, growing wild on the farm boundary. The flesh is bland with just a hint of sweetness, but its intense aroma, resembling that of ripe muskmelon, soothes him. The fruit is just what one needs to satisfy the cravings.

Till about 20 years ago, the wild fruit (*Cucumis callosus*), known as *selni* in Maharashtra, *kachra* in the tribal areas of Madhya Pradesh and *demu* or *pehta* in Chhattisgarh, was a regular feature of farm life in the central India. The thin, trailing vines, resembling that of bitter gourd, were found virtually everywhere in farms, yards and on household fences. "We would be tired of uprooting them," says Sukhwanti Bai, farmer from Multai town in Madhya Pradesh, who showed *Down To Earth* how to cure the fruit for storage. But farmers would let a few vines remain along the farm boundaries or on the household fence, for it is a ready snack from September to November for farm workers, passersby and children.

When raw, the fruits are used for making *chutney*. The half-ripe fruit is cut, sundried and stored in a dried form, called *selni khula*. In the summer, when vegetables are rare, slices of crispy, fried *selni* make a delicious addition to monotonous meals.

However, the fruit is disappearing from farms, thanks to the chemical overload and manicure-perfect weeding necessitated by commercial crops. "Even 10 years ago they were abundant and were sent to city markets in season," says Gangaram Paikra, a tribal farmer on the outskirts of Ambikapur city in Chhattisgarh. "Now no one except a few elderly matriarchs consider it worth consuming. It is seen as poor man's food."

Though *selni* is native to India, other than its cooling effect, very little is known about its nutritional property. A few elders recall they used to apply the half-ripe fruit, pounded and heated over hot coals, to painful, inflamed wounds. But the practice is forgotten. Its flavoured seeds are nutritious and have cooling effect, says Sukhwanti. But its dried flakes are the real favourite, she adds.

SELNI KHULA*Half-ripe selni - 1 kg**Sour curd - 250 ml**Salt - to taste**Oil - for frying*

Wash the fruit and wipe it dry. Slice each into four vertical sections, and sun dry for four to five hours. Beat curd and salt in a large utensil, add the slices and mix. Leave overnight. Next morning, take the pieces out of curd and spread out on a

plate under the sun. Reserve the leftover curd. Put the slices back into it in the evening. Repeat the process for three days, by when the slices would absorb the entire curd. Sun dry them for a few more days. Store in a jar.

For serving, heat oil in a pan, add a handful of *selni khula* and stir fry till crisp. The pieces will swell and change shape. Keep stirring to avoid burning. It takes a minute to be done. Serve to enliven simple meals



A thousand utility leaf

Sudeshna Saha

We were staying in the small coastal town of Karwar in Karnataka, about seven kilometres from south of Goa. My two-year-old daughter was not able to acclimatise. Anti-allergics and antibiotics were no protection against the persistent cold. One day, my friend in Karwar, Megha Gaonkar, told me about the medicinal powers of a plant called *saveer sambar soppu* in Kannada. It means a thousand utility leaf. The leaves smelled like *ajwain* or carom seeds. "Boil 10 to 12 leaves in a glass of water till one third the amount is left. The decoction will act as a great cold and cough reliever," she told me. It worked. My daughter recovered in five days.

After spending a year-and-a-half in Karwar, we shifted to Chennai. Recently, I saw *saveer sambar soppu* in a neighbour's garden. It is *omavalli*, Tamil for *ajwain* leaf, my neighbour V Padmavathi told me. She repeated the same utilities of the plant as Gaonkar had explained. She also mentioned that chewing freshly plucked leaves of the plant or their juice can relieve flatulence.

I decided to do some research. Padmavathi guided me to a nearby horticulture centre. Nobody there confirmed its scientific name; all they said was it is not an *ajwain* plant. I, however, picked up a pot of the plant for the balcony of my home. Search on the Internet gave me results of a plant that looked similar to *omavalli*, with slight difference in the shape of leaves, called Indian Borage (a species of *Plectranthus*). *Omavalli* and *Plectranthus* are sometimes used as synonyms. Botanist friends told me that *omavalli* is a species of *Coleus*, *patharchur* in Hindi.

Some *Coleus* varieties are used as ornamental plants. They require less water and care. The leaves are broad and succulent, with a layer of velvety fine hair. The plant is hardly sold in markets. Padmavathi also told me that *Coleus* makes delicious snacks, like *pakor*, a tasty *raita* or dip.



OMAVALLI RAITA

Coleus leaves - 15-20

Jeera - 1 teaspoon

Peppercorns - 5 to 6

Oil - 1 teaspoon

Salt - to taste

Sugar - a pinch

Yogurt - 100 gm

Heat oil in a saucepan. Crackle *jeera* and peppercorns in it. Add chopped leaves and sauté till the mixture leaves water. Let it cool. Grind the mixture with yoghurt. Add salt and sugar

Stalk soup

Aparna Pallavi

One of the great acumen of those living close to nature is that they know exactly when nature offers a gift. Soon after the first shower in the month of *Shravana*, between July and August, tribal women along the hilly border of Maharashtra and Chhattisgarh set out for long walks in the thick forests, poking around the roots of bamboo clumps. They look for palm-sized, white, flower-like mushrooms that would have popped up the previous night.

Velu satye, as the bamboo mushroom (*Dictyophora*) is called in the Gondi language, is highly perishable. It has to be plucked before noon and cooked within seven to eight hours of plucking, said Desirbai Ghatghoomar of Tembli village in Gadchiroli district of Maharashtra.

Of late, the musty, earthy smell of the mushroom has become a favourite among urban gourmets but they use only the fleshy caps and discard the hard fibre stalks which have the same flavour and nutrition. Tribal women know the value of these stalks and cut them into strips, carefully dry them in fitful sunshine and save to make *aaran* in winter. The deliciously spicy soup not only acts as a stimulant, it also wards off chills and cramps brought on by the damp weather, said Kumari Jamkatan of Korchi village in Gadchiroli while showing how to prepare the soup. *Aaran* is usually served as an accompaniment to lunch or dinner, and sipped hot between bites. Even the dried stems do not have a long shelf-life and are consumed during the last days of heavy rains in September and early October.



SOUP

Dried velu satye stems - 100 gm

Dry mango flakes or powder
- to taste

Onion - one large, chopped

Ginger-garlic paste - 1 teaspoon

Green chillies - five (slit)

Salt - to taste

Turmeric powder - a pinch

For seasoning (optional)

Oil - 1 teaspoon

Mustard seeds - a pinch

Cumin seeds - a pinch

Red chillies - 2-3

Curry leaves - 10-12

Coriander leaves - chopped

Pound the dried mushroom stems with a stone or wooden pestle till reduced to powder. Sieve the powder and pound the large particles again till fine. Pour some water in a pan and add the powder. Keep stirring to avoid lumps. Add more water to attain the desired consistency as soup will thicken on cooking. Put the pan on flame. Add salt and turmeric and bring it to boil.

Add finely chopped onion, ginger-garlic paste, mango flakes and green chillies. Simmer till onion and mango flakes are soft and the ingredients are well blended. Keep stirring intermittently. You can fry onion and ginger-garlic paste in a little oil before adding to the soup. Sprinkle coriander leaves and serve hot. Add seasoning if required





CHUTNEYS & PICKLES

H

appiest in a warm and dry environment, *karanda* can also adapt to slightly colder climatic conditions. *Karanda* or *karonda* is said to have originated in India; today, it is cultivated in parts of Rajasthan, Gujarat and Uttar Pradesh. The district of Varanasi in Uttar Pradesh is particularly popular for its *karanda* plantations. It is also found in some of the southern parts of the country and in Bihar and West Bengal; the plant grows wild in these areas. In the eastern states, they are grown on the slopes to prevent soil erosion. The evergreen spiny shrub grows to a height of about 10 or 15 feet. It is drought tolerant and survives well in rocky and even saline soils. The fruit yield, though, is much better when the plant is grown in fertile soil. The tree adapts even to polluted conditions.

The thorny shrub is used for fencing in some areas. All parts of the plant have white, gummy latex. Besides, the fruit's sour taste makes it difficult to eat it raw. The fruits are processed into jellies, pickles and chutneys for preservation. They can also be dried and eaten. The plant is categorised into different varieties loosely on the basis of the colour of the fruits.

The fruit is a rich source of iron and vitamin C, making it useful in the treatment of anaemia and scurvy. It also functions as a good antioxidant. It prevents thickening of the heart muscles and high blood pressure.





Karanda: *Carissa carandas*



Sweet and sour

The sour taste of *karanda* makes it difficult to eat too many of the raw fruit. But try the sweet and sour pickle. The *karanda* pickle not only makes a simple menu tangy, but it also acts as an appetiser

PICKLE

Karanda - 1/2 kg

Sugar - 100 gm

Red chillies - 3-4

Mustard seed - 1 teaspoon

Vegetable oil - 1 tablespoon

Chop *karanda* into two pieces and get rid of the seeds. Fry red chillies and mustard seeds in oil. Put *karanda* pieces. Sauté for a while before adding sugar. Add a little water and stir for five minutes. The pickle can be consumed for a week or so

see sabzi recipe on page 67

New Year special

Neem *pachidi* is specially prepared on south Indian new year between March and April. The chutney is a mixture of all tastes possible—bitter from the neem flowers, sour from the tamarind and sweet from jaggery

NEEM PACHIDI

Dried neem flowers - 1 tablespoon

Mustard seeds - 1 teaspoon

Red chilli - 1

Vegetable oil - 2 tablespoons

Tamarind juice - to taste

Jaggery - to taste

Heat oil in a wok. Put mustard seeds, red chilli and neem flowers. Add thick tamarind juice and powdered jaggery and cook for two minutes

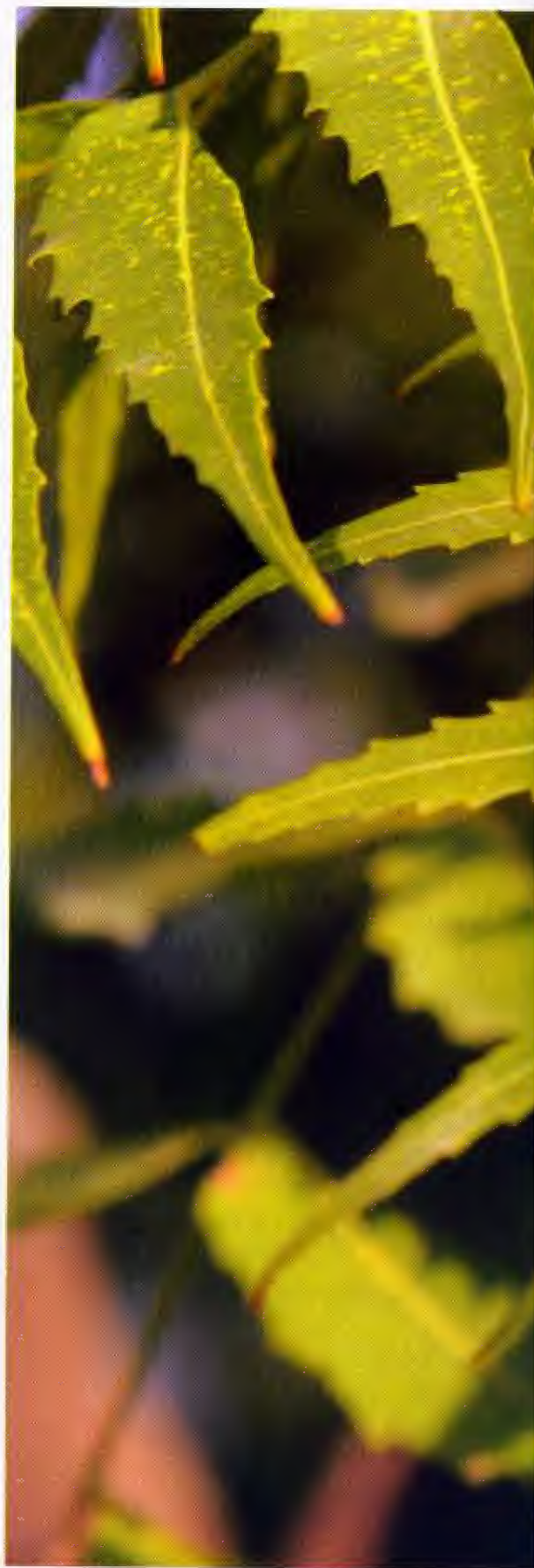
see more neem recipes on page 58



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he neem tree is an icon for biopiracy. Though different parts of the neem tree have been used as pesticides and medicine in India for more than 2,000 years, in 1994 the US department of agriculture and the multinational pesticide major W R Grace & Company received a patent for antifungal properties of the seeds. The patent was contested by environmental groups and researchers around the world. On May 11, 2000, the European patent office revoked the patent. At that time, around 90 applications for exploiting the tree properties were pending in patent offices around the world.

Neem (*Azadirachta indica*), translated as the 'free tree', is indigenous to the Indian subcontinent. All parts of the tree are used traditionally. For example, seed oil is used to make cosmetics, seed cake is used as manure, tender stems are used to clean teeth, roots can cure fever and leaf paste is a common ingredient of face packs. Its main uses in the agriculture sector include being an insecticide in food storage, a soil amendment, fertiliser efficiency enhancer, and an effective foliar pesticide. In 1942, Salimuzzaman Siddiqui at the Council of Scientific and Industrial Research isolated the anthelmintic, anti-fungal, antibacterial, and anti-viral constituents from neem oil: nimbin, nimbinin and nimbidin. Since then, a lot of other chemicals have been isolated but the raw extracts have been found to work the best.



Neem: *Azadirachta indica*



Mulberry delights

Madhu Bala

The mulberry tree (*Morus nigra*) is famous worldwide as its leaves are the principle food of the silkworm. But its wine-coloured fruit, available in the summer months, is also a delight. The fruit, commonly known as *shehtut*, can either be eaten fresh or prepared into jellies and other preserves. A sherbat or fruity wine can also be prepared. A syrup made from the juice of the fruit is widely used for adding flavour and colour to medicines. But it is the sweet juice that people drink every day to purify blood.

The fruits have a strong anti-inflammatory and antiseptic action. They are particularly useful for people with acidity, gout and arthritis. Anybody having dry or stressed eyes must drink mulberry juice, as it strengthens eyesight. The juice can also be applied topically to the head to promote hair growth. The fruits are rich in vitamin A, potassium, phosphorous and calcium. The Chinese use the fruit as medicine for the benefit of the kidneys and to treat weakness, anaemia and premature greying of hair. It is also used to treat urinary diseases and constipation.

Other than fruits, the leaves also have medicinal value. The Chinese use them for curing liver and lung diseases. They are also used to stop bleeding, especially in patients who are vomiting blood. In addition, *in vitro* studies have shown that decoctions made from the leaves can inhibit the growth of several bacteria. Recent research shows that mulberry leaf extracts can also help treat diabetes. The wood is used for manufacturing tool handles and goods like tennis rackets.





JAM

Ripe mulberry - 1/2 kg

Sugar - to taste

Crush mulberry fruits and then cook them in a saucepan for a few seconds. Add sugar and stir till it melts. Keep boiling and stirring till the mixture becomes thick. When the mixture cools down, put in sterile jars and refrigerate



Bang from *bhang*

Despite *bhang* seeds having no intoxicating alkaloids, the chutney will surely give one a high

CHUTNEY

Juicy ripe apricots - 4 to 5

Roasted bhang seeds

- 1 tablespoon

Mint and coriander leaves

- few sprigs

Green chillies - to taste

Salt - to taste

Grind all the ingredients to paste. Add a dash of salt. It can enliven a simple meal of rice and *dal* or can be eaten as an accompaniment to *paranthas*

see recipe for *pakora* on page 35

Sprinkled with sugar

*Amla has moved from the plate to *Ayurveda*prash and candy. But the fresh *amla* is the most beneficial way of consuming the sour fruit that leaves a sweet aftertaste*



Pickle

CHUTNEY

Amla - 1/2 kg

Mustard seeds

- 1/2 teaspoon

Red chillies - 3-4

Chilli powder

- 1/2 teaspoon

Salt - to taste

Vegetable oil

- 1 tablespoon

Heat the oil and add mustard seeds and red chillies. When the seeds start sputtering, add *amla* and a glass of water. Add a pinch of red chilly powder and salt to taste. Let the mixture simmer till the fruits become soft. Add a tablespoon of sugar and cook for 15 minutes

ACHAR

Amla - 1/2 kg

Turmeric - 1/2 teaspoon

Chilli powder

- 1/2 teaspoon

Vegetable oil

- 2 tablespoons

Salt - to taste

Semi-boil fruits. Heat oil and add fruits, turmeric powder and salt. Cook for five minutes and the pickle is ready. It should be consumed within a week of preparation

see recipe for dal and raita on page 41

Spice route

Shalini Misra Dhyani

The aroma of *bhangjeera* tea and *bhangjeera* chutney fills the air as one travels through the hilly terrain of Uttarakhand's Garhwal region, especially in winter. People of Garhwal have many uses for the leaves and seeds of this plant. Its popularity is evident at local *dhabas* and classy eateries alike. Unlike *bhāng*, or *cannabis*, *bhangjeera* (*Perilla frutescens*) does not alter the state of mind.

Till two decades ago, it was extensively cultivated between the altitudes of 1,000 metres and 2,500 metres in the Himalayan region. The crop grew in abundance in the valleys of Kedarnath, Pinder, Urgam and Niti. Farmers in lower altitudes, who mostly cultivate potato and rice, grew it on field bunds or as a mixed crop with *moong* lentils, amaranth grain or finger millet.

Most common use of *bhangjeera* is as tea. One of the organic compounds found in the plant is 2,000 times sweeter than sugar.

According to folklore, the infusion of the leaves is useful in the treatment of cold, cough, asthma, lung infection, constipation, food poisoning and allergies from food. Boiling the leaves in water and inhaling the steam can soothe respiratory tracts.

The large red *bhangjeera* leaves used to be a regular feature of Garhwali cuisine. They are used as condiments in fish, rice and vegetable dishes, even soups. Their aromatic seeds are used as a spice and to prepare flavoured chutney. Oil extracted from the seeds is rich in omega 3, an essential fatty acid, and is used both for cooking and as a medicine. Roasted *bhangjeera* seeds blended with roasted proso millet offers nourishment to those suffering from jaundice and measles. But the *bhangjeera* is losing its popularity among Garhwalis. A handful of farmers cultivate the spice, that too in small quantities; it does not reach the market. Gourmets better act fast before *bhangjeera* disappears completely from the slopes of Garhwal.

CHUTNEY

Bhangjeera - 50 gm

Jeera - 10 gm

Lemon juice - 1 tablespoon

Chilli powder - 1/2 teaspoon

Sugar - to taste

Salt/black salt - to taste

Roast *bhangjeera* seeds and cumin seeds on a girdle. Add lemon juice and grind the roasted seeds to a paste. Add a little water to give it the consistency of a chutney. Add sugar, salt and chilli powder and mix well. To give it a different taste, add paste of tomatoes, ginger, coriander leaves, garlic stalks and green chillies to the chutney. When refrigerated, the chutney lasts for more than a week

see the recipe for a beverage on page 143





BEVERAGES





Bael smoothie

Vibha Varshney

BAEL SHERBET

Bael - 1

Water - 3 to 4 glasses depending on the size of the fruit

Sugar (powdered) - to taste

Take the pulp of the fruit and mix and mash using water. The juice should not be too watery. Sieve out the seeds. Add sugar to taste and serve it chilled

The yellow, ball-shaped fruit of *bael* (*Aegle marmelos*) belongs to the citrus family but is completely unlike the easily squeezable lemon. This fruit is hard. However, a ripe *bael* is filled with a sweet pulp. And just like lemonade, it can be made into a refreshing drink in summers. The fibrous pulp is perfect for hot summer months as it helps the body retain water for long.

The fruits can be preserved in the form of *murrabba*, what is now commonly known as *bael* candy. This makes it possible to consume the highly nutritive fruits round the year. The fruit contains 31.8 per cent carbohydrates and 1.8 per cent proteins. Other than these two major ingredients, the fruit is also rich in minerals and vitamins.

The tree is known more for its medicinal value. According to traditional systems of medicine such as ayurveda, all parts of the tree are of value. The unripe fruit is digestive and is prescribed for diarrhoea and dysentery. The ripe fruit is a laxative. The root bark treats hypochondria and melancholia. The leaves are anti-diabetic, anti-asthmatic and good for treating jaundice. When made into a poultice, the leaves can reduce inflammation and eye diseases. Recently, the medicinal value of the leaves against diabetes was confirmed by modern researchers in India.

These leaves are quite characteristic. The three leaflets are said to represent the three prongs of the *trishul* that Lord Shiva holds in his right hand. The symbolism and easy availability makes the leaves a perfect offering to the deity.

The tree can grow in a wide variety of climatic and soil conditions—from swampy to dry soil and from very high to very low temperatures. The tree is planted near temples and wherever it occurs naturally, it indicates the presence of groundwater.

Juicy details

Anil P Joshi and Namami Sharma

The rhododendron tree is a poet's inspiration and a health freak's delight. It enjoys the status of the national flower in Nepal and is the state flower of Sikkim, Uttarakhand, and the US states of Washington and West Virginia. Around 110 species of the evergreen tree are found in India. The flowers are used for ornamental and religious purposes. They also yield an aromatic oil, which is used for making perfumes and incense. (Read more about the tree on page 130)

Many people in hilly regions of India collect rhododendron flowers, used to make bottled juice. The pure juice is sweet in taste. Market research shows a large gap in the demand-supply chain. This is mainly due to unscientific methods of harvesting and processing. The gap has led to adulteration, marring the popularity of the rhododendron juice.

The flowers of most species of rhododendron have medicinal properties. They contain ursolic acid and quercitrin, which have anti-tumor, anti-inflammatory, anti-ulcer, anti-microbial and anti-viral properties. A concoction of the flowers helps fight diarrhoea and dysentery. The leaves and flowers of *Rhododendron barbatum* contain andromedotoxin—a substance that helps reduce blood pressure. *Rhododendron campanulatum* leaves can be used as a cure for chronic rheumatism, syphilis and sciatica. Furthermore, they can be mixed with tobacco and used as a snuff to cure hemicranias and cold. Leaves of *Rhododendron indicum* are a good source of vitamin C.

Leaves and flowers of *Rhododendron ponticum* possess narcotic properties; they can help combat gout and rheumatism. The wood of the tree is used for making dishware and boxes. The leaves are used as insecticide.

SQUASH

Rhododendron petals - 1 kg

Sugar - 1/2 kg

Citric acid - 5 gm

Boil petals, and then strain out the concentrated juice. Add sugar, 350 millilitres of water and citric acid. The final volume should be around one litre. Store in a clean and dry bottle. To serve, mix the juice in water in the ratio of 1:3.

Note: The anthers of the flowers are poisonous. They have to be removed before making the juice



R

hododendron is found commonly in the Himalayan regions, particularly in Sikkim, Uttarakhand and Arunachal Pradesh. Sikkim alone has about 24 species of this tree. It also grows in many parts of Europe and China, supported well by the wet and cold climatic conditions in these regions. The rhododendron tree has beautiful flowers growing in large clusters, which are admired worldwide. The flowers are commonly used for ornamental purposes.

The first ever written records of the rhododendron species are found in China. The discovery of rhododendron in India is attributed to Thomas Hardwick, a British naval officer, who reported spotting the *Rhododendron arboreum* species while on his trip to the Shivalik ranges of Kashmir in 1799. This species was described later in much detail by James Smith in the book *Exotic Botany* published in 1805.

To showcase the beauty of this tree to the world, an International Rhododendron Festival was organised in Sikkim in 2010. The state is also renowned for the Barsey Rhododendron Sanctuary. The rhododendron trails inside the sanctuary give tourists a rare chance to experience the wide diversity of this tree.

The flowers are commonly used to make juices, especially the flowers of the *Rhododendron arboreum* species.

Due to over-exploitation of the tree for making fuel and incense, and owing to extensive deforestation, the tree faces extinction. Various organisations across the world are making efforts to conserve it. In India, the G B Pant Institute of Himalayan Environment and Development is working towards its conservation. The Global Trees Campaign has taken up major conservation activities globally, especially in China, to protect the tree.



Buransh: *Rhododendron* species





Cooking with *kokum*

Sourav Dutta

Few people outside the western coastal regions of southern India would have heard of *kokum*. Perhaps visitors to the sunny beaches of Goa remember being served a large glass of a refreshing, tangy drink after a heavy meal. Meant to be an aid to the digestive process, this delicious sorbet is prepared from the fruit of the *kokum* tree (*Garcinia indica*) and has been used by people in the state as a cooling ingredient for centuries. Of late, there has been a resurgence of interest in the medicinal properties of *kokum*. This has led to a huge boom in the demand for *kokum* extracts in the international market.

Its round fruits are darkish purple, about an inch-and-a-half in diameter, with seven or eight seeds. The rinds of ripe fruits are dried, much like tamarind. This dried rind, called *solam*, is ground and used as a condiment to give curries, chutneys and sauces a spicy sour flavour and dark colour.

Kokum seeds also contain a fat that is made into *kokum* butter, otherwise known as Goa butter. The fruit's cooling properties are well-known. The fruit is rich in calcium, potassium and vitamin C. *Kokum* has numerous medicinal values and is prescribed for heart ailments, stomach disorders, diabetes, tumors, and to fight cholesterol. Both *kokum* and *kokum* butter, when applied, are also good for skin ailments, burns and rashes.

It may come as a heaven-sent solution for weight-watchers. Hydro citric acid, found in a calcium salt extract obtained from the fruit rind, can help in reducing weight. Demand for *kokum* extracts are rising steadily, both in India and abroad. The tree, which the ancient Indian texts call the *vriksamala*, could once again return to its place of glory.

KOKUM SORBET

Kokum fruits - 4

Sugar - 5 cups

Cumin powder - 1/2 teaspoon

Black salt - 1 teaspoon

Wash and clean the fruits. Cut them into half. Mix them with sugar in a dry bowl. Place this mixture in a dry glass jar, and let it sit in the sun for 15 days. A red syrup should form. Sieve the *kokum* sugar syrup. Add cumin powder and salt. Stir well. Add sugar if needed. The *kokum* juice concentrate is ready. Mix with chilled water before serving

Mouthful of bliss

The drink depicts the versatility of *sattu* from Bihar. The grain helps retain the water for long periods. A couple of glasses a day not only make high temperatures bearable, but also keep the stomach in good order.

SATTU

Sattu powder - 20 gm

Salt, sugar and cumin powder - to taste

To make one glass of the drink take *sattu*. Add sugar or salt and cumin powder.

see recipe for parantha on page 18 and sweet laddoo on page 157



Cool medicine

Ravleen Kaur



THANDAI

Watermelon seeds - 1/2 cup

Dried rose petals - 2 to 3 tsp

Poppy seeds - 1/2 cup

Almonds - 1/2 cup

Pepper corns - 1 tsp

Sugar - to taste

Take almonds, poppy seeds and watermelon seeds. Soak them in water overnight. Grind them to a fine paste while adding rose petals and pepper corns halfway through the process. Mix sugar and a spoonful of the paste to a glass of cold water. The drink is ready to serve. To cure cough and cold, add the paste to hot milk, topping it with ghee

Thandai used to be a popular drink at Agyawanti's maternal home. But when she came to village Chaina in Faridkot district of Punjab after marriage, she discovered that tea was the chosen drink. Then, last year, she was asked to make *thandai* at a food festival in her village.

"It was after 40 years that I prepared it. Despite my age I remembered the recipe. Maybe it is the nuts I had in *thandai* as a child that keep my memory sharp," joked the 65-year-old. *Thandai* means "coolness" in Hindi. But it not only cools the body, it also has medicinal properties. Its main ingredients are poppy seeds and nuts. "It was our sole remedy for cold and fever since we did not have pills to rely on," said Agyawanti.

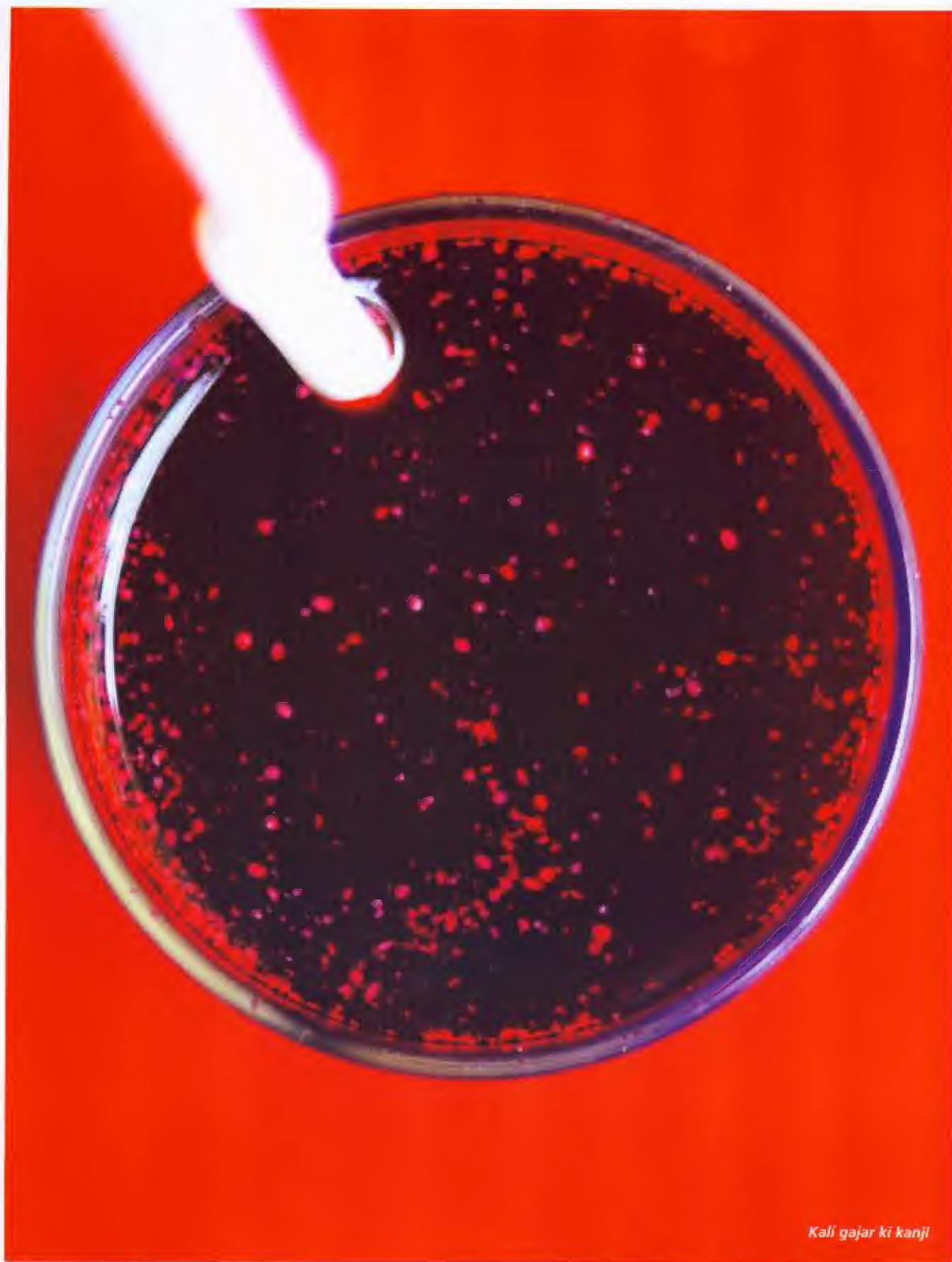
The drink has natural vitamins and minerals. It relieves acidity and constipation, increases appetite and protects against dry, hot winds in the summer, she said. It rejuvenates the body and mind, so men would have it when they came home after working in the fields, she recalled. One can have it hot in winters and as a cool drink in summers.

Thandai is not restricted to Punjab. It is more famous in Uttar Pradesh where a paste of *bharg* or marijuana leaf and dry fruits is added to cold milk and served chilled. People offer this to Lord Shiva during Holi and Shivratri and have it as *prasad* or holy drink. The *bharg thandai* induces hunger and sleep. It is not as healthy as the traditional *thandai* Agyawanti had as a child.

Her grandchildren have taken to the drink since the festival. She grinds the *thandai* paste for them in a *douri*, a heavy stone vessel with a long log. "This is a 70-year-old vessel. My father-in-law loved drinking tea with ground poppy seeds in it," she said. "It is back in use. This time to make *thandai*."

Agyawanti does not think readymade soft drinks are any match to her *thandai*. "Cola drinks filled with gas have taken over, and on television they call them refreshing. But can't we see the difference? These children can't run even a kilometre without panting, forget working in the fields," she said.

It is not just Agyawanti's family where *thandai* is making a comeback. It is sold in urban stores as concentrates and is soluble as mixes. Just add it to water and stir.



Kali gajar ki kanji

Tangy delight

Devinder Sharma

Kanji, a ready-to-serve traditional drink, can help you win a few hearts very easily. It is essentially fermented water, which is made yummy with the help of *kali gajar* or purple carrot (*Daucus carota*) and a few spices. It is relished in northern India. Since it is non-synthetic in nature, it can give tough competition to aerated drinks.

The drink is prepared with the help of fermentation, which makes the water acidic and hence free of harmful, food-spoiling microorganisms.

Kanji is usually prepared during winters, as the fermented water can last for long during this season. It is an essential part of the Holi festivities. But a different type of kanji is prepared for the colourful celebrations—*urad dal* dumplings (*vadas*) are added to the water instead of the carrots. This variety, called *kanji vada*, may not be so appealing to the calorie-conscious.

Both *kali gajar ki kanji* and *kanji vada* get the gastric juices flowing, and thus are very good for digestion. Most people have the drink as an appetiser. It is also popular because of its nutritional value. It even helps in maintaining the salt levels of the body. (read about antioxidants in carrots on page 138)

Those who love *golgappe ka pani* would certainly like the slightly sharp, tangy taste of *kanji*. However, unlike *golgappas*, the drink is not available in every corner of cities and towns. But if you are a regular visitor to places like New Delhi's Chandni Chowk, which still remain deeply steeped in culture and tradition, then you can easily spot hawkers selling *kanji vadas* in their earthenware.

KALI GAJAR KI KANJI

Purple carrots - 1 kg

Rai powder - 40 gm

Chilli powder - 10 gm

Salt - to taste

Peel the carrots. Chop into small pieces and put them in a glazed earthen jar. Add around seven litres of lukewarm water, salt, *rai* powder and red chilli powder. Stir the water well, and then put the jar under the sun for five or six days. The water will slowly ferment and develop a tangy taste. Chill the *kanji* a bit, before serving

KANJI VADAS

Rai powder - 40 gm

Chilli powder - 10 gm

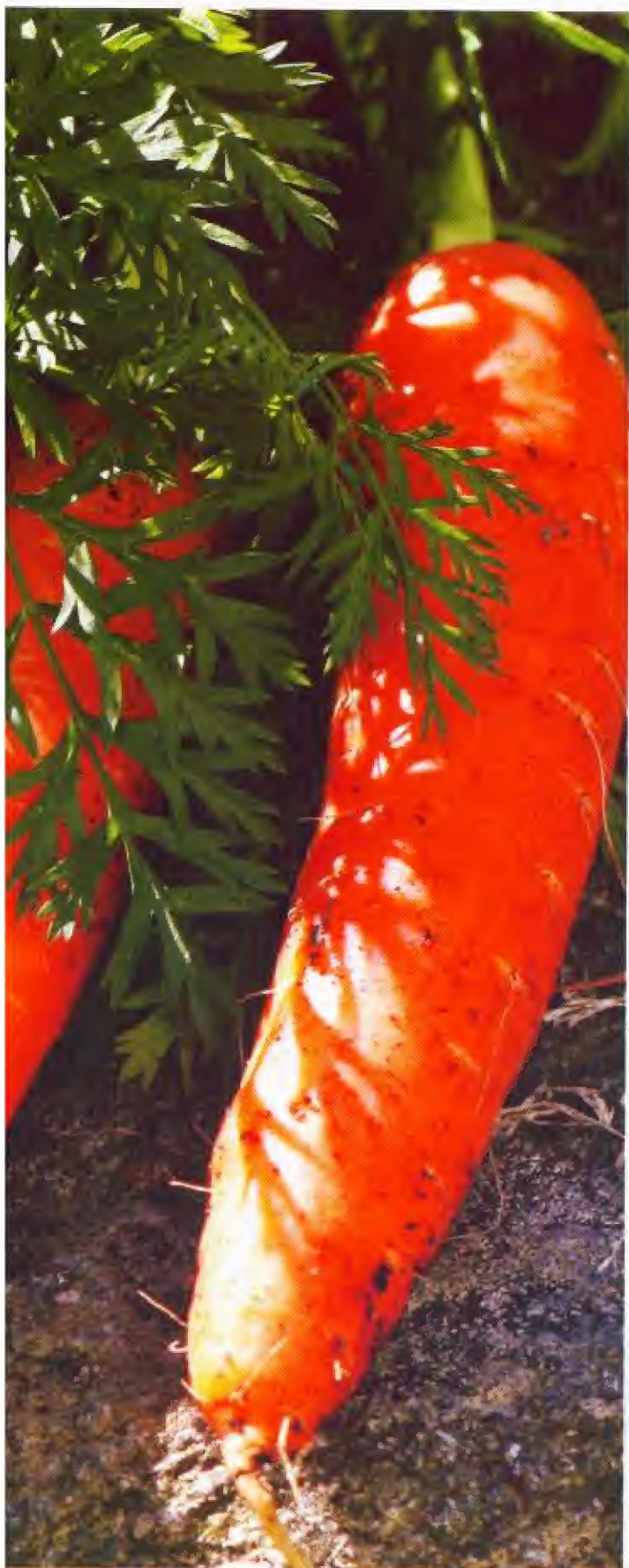
Salt - to taste

Fill an earthen jar with six litres of lukewarm water. Add *rai* powder, 150 gm of salt and 10 gm of chilli powder. Put the jar under the sun for five or six days. The water will ferment and develop a tangy taste. Put *vadas* in it a day before consumption.

Vadas: Grind one kg of *urad dal* (black gram), which has been soaked for eight to nine hours. Add salt to taste and whisk the batter till it becomes fluffy. Heat oil in a pan and drop spoonfuls of batter in it; fry till the *vadas* are golden brown

Carrots: *Daucas carota*





F

ruits and vegetables are a good source of antioxidants which mop up free radicals in the body. The free radicals are formed due to the process of oxidation – processes such as breaking down the food or exposure to environmental toxins like vehicular exhaust. The free oxygen can damage the tissues and cause diseases such as cancer and heart disorders.

Antioxidants are substances that protect your cells against the effects of free radicals by reacting and neutralizing them. Some of the well known antioxidants are beta carotene, anthocyanin, lycopene, lutein, vitamin C, vitamin E, vitamin A, selenium and enzymes like catalase and peroxidase.

All kinds of carrots are rich in antioxidants. The orange ones have high amounts of carotenes, red ones have lycopene, yellow colour is due to lutein and purple is due to anthocyanins. While lutein in yellow carrot is said protects from macular degeneration, anthocyanins in purple carrots protect from DNA damage and impaired activity of estrogen, boost production of cytokines that regulate immune responses, reduce capillary permeability and fragility, and help in membrane strengthening.

The anthocyanin pigment has found use even in traditional medicine. Anthocyanins from *Hibiscus* sp have historically been used in remedies for liver disfunction and hypertension; bilberry (*Vaccinium* species) anthocyanins have an anecdotal history of use for vision disorders, microbial infections and diarrhoea. To benefit from of all kinds of antioxidants, it is suggested that one 'eats a rainbow' – foods of various colours.

Throat balm

Sumana Narayanan

What better way to tickle your taste buds this monsoon season, while also protecting yourself against colds and coughs, than sipping some piping hot *rasam*? *Rasams* flavoured with lemon, tomatoes and cumin are a staple in most Tamil households. They soothe aching throats and upset tummies. The versatile soup has its variations in Karnataka and Andhra Pradesh.

Rasam is usually eaten with rice. But it's equally lip-smacking without any accompaniment. *Rasams* are sipped as a preventive or as cure for some ailments. For example, *aattu kaal rasam* (sheep leg soup) is recommended as nourishment for people recovering from any debilitating condition. *Rasam* flavoured with the bitter fenugreek seeds is said to cool the body and is recommended for menstrual cramps. *Rasam* made from the leaves of the deadly night shade plant cures stomach ulcers.

Neem flower *rasam* cools the body, prevents fevers and clears the intestines of worms. Neem flowers in April but the flowers can be shade-dried and stored for up to a year. Garlic and pepper *rasams* are recommended for colds and coughs. Incidentally, the famous mulligatawny soup is an Anglicised version of *milagu tanner* (pepper water) *rasam*. (read more about spices on page 144)

The medicinal properties of *rasams* are mentioned in Ayurvedic texts. According to this genre of medicine, *pepper rasam* has *deepana* and *paachana* properties: it improves appetite and digestion.

A good general rule to follow is that any *rasam* given for digestive problems should be mild and those given for cold/cough should be spicy.

Sip away!

MILAGU (PEPPER) RASAM

Tamarind - small lump

Red gram dal

- 1 teaspoon

Red chillies - 2

Curry leaves - 6 to 8

Ghee - 2 teaspoons

Rasam powder

- 1/2 teaspoon

Peppercorns (coarsely ground) - 3/4 teaspoon

Cumin seeds (coarsely ground) - 1/2 teaspoon

Salt - to taste

Take tamarind water, salt and *rasam* powder. Add cumin seeds, pepper and ground dal. Crush a couple of curry leaves and add. Cover the vessel and boil well. Add water to make two glasses. When the *rasam* starts to froth, skim it off. For seasoning, fry mustard, red chillies and the remaining curry leaves in ghee; add to the *rasam*



Gulp it down the cool way

Aparna Pallavi



Sirsi is a health foodie's dream. Bite into anything in this richly forested taluk of Karnataka and be sure it will be organic. A unique medicinal drink of this region is *thambli* made from buttermilk and a wide variety of herbs that grow in wild abundance. The mildly flavoured drink contains paste of a single herb or a combination of herbs, often marking the beginning or end of a meal. Some drink it as a routine health practice, while others to treat specific health problems.

"During my grandmother's time *thambli* was prepared with a hundred different herbs," says Shankar Hegde of village Mallenhalli. "We remember just a few." Hegde says the ingredients range from common kitchen herbs like curry leaves, mint, coriander, vegetables like fenugreek (*Trigonella foenum-graecum*) to herbs typically used in ayurveda like *bhui amalaki* (*Phyllanthus niruri*) and *bhui neem* (*Andrographis paniculata*). A dash of ginger and mint relieves indigestion. A combination of leaves, stalks and fruit of *bhui amalaki* cures liver problems.

While consumption of medicinal herbs is common in almost all parts of rural India, what makes *thambli* unique is that it makes eating bitter herbs a pleasant experience. "Take the bitter *bhui amalaki* leaves," says Hegde. "It is impossible to eat them raw. If boiled, their nutritive and medicinal values get reduced. But as a *thambli* it's a soothing drink."

THAMBLI

Fresh young brahmi leaves
- one small cup

Buttermilk - one glass

Salt - a pinch

Freshly roasted cumin
seeds - 1/2 teaspoon

Molasses or jaggery - to taste

Wash the leaves and grind to a very fine paste with the cumin seeds. Add a generous spoonful to the glass of buttermilk. Add salt and molasses or jaggery. Stir till everything blends evenly. Serve cool (not chilled) as a drink or with rice. You can add a dash of black pepper powder, but avoid chillies.

Note: The same method and ingredients apply for *thambli* prepared with other herbs

Spice of the slopes

Freshly picked tender leaves are added to boiling water while making tea. People in Garhwal also store dried leaves of *bhangjeera* to use all year round

INFUSION

Add a quarter cup of fresh or dried *bhangjeera* leaves to one cup of boiling water. Allow it to steep for 10-15 minutes. The medicinal tea is ready

see recipe for chutney on page 122

M

ost spices—at least the ones that matter—grow in warm, moist areas including many parts of India. India had these conditions and is a major producer of pepper, cinnamon, cardamom and turmeric. Quest for these spices changed the history of both India and the world. The Western world depended a great deal on these spices for preservation and flavouring of food, especially meat. Due to their antimicrobial quality, spices like pepper tended to preserve the food for long. Sometimes they were also used to mask the taste of spoilt food. They were the first commodity to be traded between the East and the West. The trade moved from the hands of Persians to Indians and Greeks to Arabs. But these spices were expensive and traders did not reveal their sources. To get a stake in the business, Marco Polo set out in 1271 to figure out the source of these spices. He found land routes





Flame that cools

Aparna Pallavi

For a poet, it is all colour and no fragrance, and for the common man, it is a mere flower. *Palash*, or the Flame of the Forest, which is abundantly available in central parts of the country, has long been considered virtually useless. Of course, the flower once came handy in making dyes for Holi but the profusion of chemical colours in the market put to an end to its use.

Tribal areas of Maharashtra and adjoining Chhattisgarh, however, once valued *palash* (*Butea monosperma*) as the best coolant, with nutritional and healing qualities. While in most areas the tradition of consuming the extract of the flower has died out, it is surviving in small pockets. During summer, cold infusion of the dried flower is consumed as *sherbet*, while a tea prepared with dried flower leaves can be consumed all year long.

Shantilal Kothari, a traditional nutrition scientist from Academy of Nutritional Improvement in Nagpur, says the flower benefits in case of urinary and menstrual problems. As part of his research, Kothari asked a group of women suffering from cramps and heavy bleeding to take 100 ml of concentrated *palash* sherbet every day for six months. "About 90 per cent of the women reported less problems within a month," says Kothari.

Nanda Tofa of village Mendha Lekha in Maharashtra's Gadchiroli says people in her area regularly drink *palash* tea. It is prepared with or without milk, either by substituting dried flowers for tea leaves, or by using both. Tofa remembers having *palash* sherbet as a child, but says the practice has now been forgotten because the flowers need to be soaked for hours before the infusion is ready, and youngsters prefer bottled cold drinks: "Health benefits of the flower need to be documented properly so that youngsters realise its importance." Improvising the sherbet recipe will be good idea, says Tofa, since the flowers are flavourless.

Among the tribals of southern Chhattisgarh, use of *palash* goes beyond consumption as sherbet or tea, says activist Subhadra Khaparde who belongs to Kanker district. The tree is believed to have cooling properties, she says. Fresh leaves are placed on the head and secured with a scarf before going out in the sun. This provides protection from sunstroke. Khaparde says till about a decade ago, people did not fell *palash* trees because they were believed to hold water in their roots. "Now these beliefs are losing currency as people are felling *palash* trees to make space for crop cultivation."

PALASH SHERBET

Dry palash flowers

- a large handful

Sugar/jaggery/rock sugar

- to taste

Fennel seeds, cumin

powder, pepper powder,

mint leaves, lemon juice -

optional

Soak all the ingredients with five glasses of water for four to six hours or till the flowers lose colour.

Stir well, strain and serve chilled. To improve taste, soak fennel seeds along with the ingredients. Add lemon juice, black salt, cumin powder, pepper powder or fresh mint leaves before serving





SWEETS

Welcome winter sweetly

Snigdha Das

The earthy sweet aroma of *haldi patra pitha* on a winter morning makes me nostalgic. The delicacy is the speciality of *Prathama Ashtami*, a festival that falls on the eighth day after *Kartik Purnima*—late October or early November that heralds the winter season.

The memory of my mother fervently invoking God to bestow good health on children and the overwhelming aroma of the *pitha* are still vivid. The puja ends with the distribution of the *pitha*. The sweet dish is wrapped in green turmeric leaves before it is steamed. The leaves impart a subtle flavour to the batter and infuse nutrients into the *pitha*.

Ayurvedic doctors say that every part of the turmeric plant (*Curcuma longa*), rhizome, the flower and leaf, has medicinal properties. Its active ingredient, curcuminoids, has antioxidant and antibacterial properties. It boosts the body's immunity and staves off flu. Turmeric leaves are rough and not pleasant to eat. That's where tradition helps; it is obligatory to use turmeric leaves in winters just when they are needed for warding off chills and agues.

Odisha's vegetable vendors sell the leaves a couple of days ahead of the festival, but my mother prefers growing them organically in her kitchen garden. It is usually planted before the rains begin and is fully grown by early winter. For diabetics, the *pitha* can be made without the filling and can be served with a curry of choice. *

HALDI PATRA PITHA

Turmeric leaves

Rice - 250 gm

Polished urad dal

(black gram) - 500 gm

Grated fresh coconut

- 250 gm

Jaggery - 200 gm

Crushed ginger - 10 gm

Cardamom - 3-4

Salt - 1 teaspoon

FILLING

Mix ginger and jaggery with coconut. Roast it in a pan till the paste turns chocolate brown. Leave it over the flame for five minutes. Add ground cardamom just before putting off the flame.

PITHA

Soak the rice and urad dal separately overnight. Strain the rice and grind it coarse. Grind *urad dal* with water. Mix. Add salt and leave it for three-four hours to ferment. Cut the leaves six inches long. Spread one-and-a-half tablespoon batter evenly over the shiny side of each leaf, leaving a thin margin. Place a line of filling in the middle of the batter. Fold the leaves along the length and place them in a steamer. Cook at medium heat for 15 minutes.



Sweet nothings

It might be more often visible as bird feed, but the millet when made into a *kheer* is a feast for both those initiated and not initiated into using *bajra* as food



BAJRA KHEER

Whole bajra - 2 cups
(soaked overnight)

Milk - 6 cups

Water - 4 cups

Sugar - to taste

Soak *bajra* overnight. Coarse grind it and remove the husk. Boil or pressure cook, till half cooked. Add milk; cook till the paste thickens and the *bajra* is soft. Add sugar to taste. Garnish with cardamom, almond. Serve hot or cold

see more *bajra* recipes
on page 85

Sweet yet coarse

The sweet tooth is aching for a bite? But you have been asked to go slow. The grainy *ragi* is perfect for you

KHEER

Ragi flour - 200 gm

Milk - 1 litre

Sugar - 100 gm

Dry fruits - one handful

Cardamom - to flavour

Roast *ragi* flour till it turns golden brown. Add milk. Simmer on low flame till the *kheer* becomes thick. Stir well to avoid lumps. Once the *kheer* is thick enough, add sugar. Take it off the flame and let it cool. Garnish with cardamom powder and grated dry fruits

see more millets recipes on pages 85, 103 and 152



Sweet surrender

Gur is nutritious, it could be more so without chemicals, argues **VIBHA VARSHNEY**

The temptation to pick up the golden chunks of *gur* (jaggery) was overwhelming as we walked around Asia's largest *gur* market. But Pramod Kumar Jain, our companion, counseled restraint. "Do not pick this up. I will get you the real thing," he said. Jain is a *gur* dealer at Naveen Mandi Sthal in Muzaffarnagar, Uttar Pradesh. We were at his work area to know more about the traditional method of making *gur*—the real thing.

The three pans

Id festivities were just over and most of the temporary *gur*-making units or *kolhus* that dot Muzaffarnagar had not resumed work. Abrar Ahmad and his

team, though, were at work. Ahmad took us through the *gur*-making process.

The cane is crushed in generator-operated machines and the juice collected in a cement tank. A drain then takes it to a pan at the furnace-end. The pan is the third in the series and the least hot. Once the juice is heated to the required temperature, it's transferred to the second pan and cleansed of impurities.

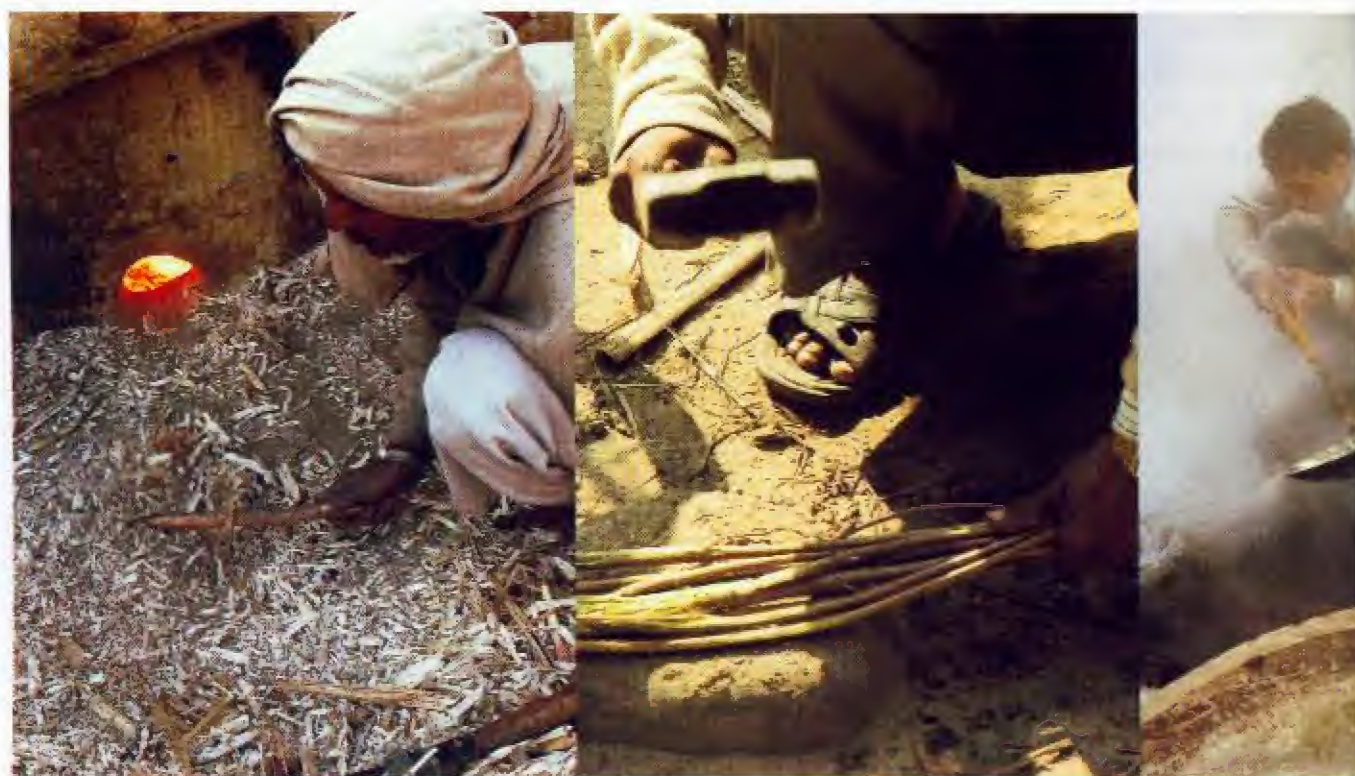
A solution made of stems of wild ladyfinger, locally called *sukhlai* (*Abelmoschus* spp), is used for clarification. Polymers from the stems make the water sticky. When a can full of this sticky solution is added to the boiling

sugarcane juice, it makes the impurities in the juice rise up and they are laddled off.

Other additives

At this stage, chemicals give the *gur* its preferred golden hue. A spoon each of sodium hydrosulphite (hydro) and sodium formaldehyde sulfoxylate (*papri*) and a capful of castor oil are added to the boiling syrup. They are supposed to rid it of impurities which the *sukhlai* solution could not remove.

The clear syrup then gets concentrated and after the required consistency is achieved, it is transferred to another pan. This pan is the hottest. The final concentration is done here.



The semi-solid product is then transferred to a flat platform, *chak*. Here it is cooled and a handful of *phatki* or alum is added to enhance the colour.

The gooey stuff is shaped into various forms and dried. The process takes about an hour.

It is the demand

"*Sukhlai* is safer as it does not stay in *gur* unlike chemicals," says Ahmad. But he has to use chemicals to satisfy the market, adopting the traditional method only when local people ask him for some. They also spice up the *gur* with dry fruits, black pepper, dried ginger, coconut, and sometimes, even carrots.

It's the golden-hued *gur* that is more in demand. "In popular perception, its colour and texture are indicators that all impurities have been removed," says Ajay Singhal, a

Muzaffarnagar *gur* trader. The Bureau of Indian Standards specifies that sulphur dioxide levels in *gur* should be below 50 parts per million. The level, however, very often goes much higher because of the indiscriminate use of hydro. Likewise, the use of *phatki* goes against the Muzaffarnagar *mandi* rules.

The customers

Gur is not exported. But that does not pinch the traders because consumption within the country makes up for it. Eighty per cent is used by distilleries. Units in non-sugarcane growing areas where liquid molasses is unavailable depend on its solid version, *raskat*. But some states do not allow import of *raskat*, and here distillers have to use *gur*. For example, distilleries in Gujarat depend solely only on *gur*. *Gur*'s food value is also high.

Lucrative leftovers

Gur-making units ensure that farmers make profit even when the sugar industry is unable to consume all the sugarcane produce. And that's always the case in Muzaffarnagar. So *kolhus* here operate for at least eight months every year. The process of making *gur* is very efficient.

Dried bagasse is used to heat up the furnace and the leftovers are sent to paper mills—another major industry in the area. The impurities ladled off are mixed with animal feed to make it nutritious.

Ahmed earns around ₹5 lakh in the eight months his *kolhu* operates. All this, despite a recent slump in the *gur* industry's fortunes.

Once there were around 7,500 *kolhus* in the area. Now only about 2,500 remain and they provide livelihood to around a lakh.



Creamy and crunchy

In North India, *makhane ki kheer* is a regular feature on religious occasions. For people longing for wholesome food after a day of fasting, this creamy delicacy decked with crunchy dry fruits packs the right nutritional punch. What's more: it is quicker to cook than the more well-known rice *kheer*

KHEER

Roasted makhana

- 250 gm

Milk - 1 litre

Sugar - 25 gm

Clarified butter

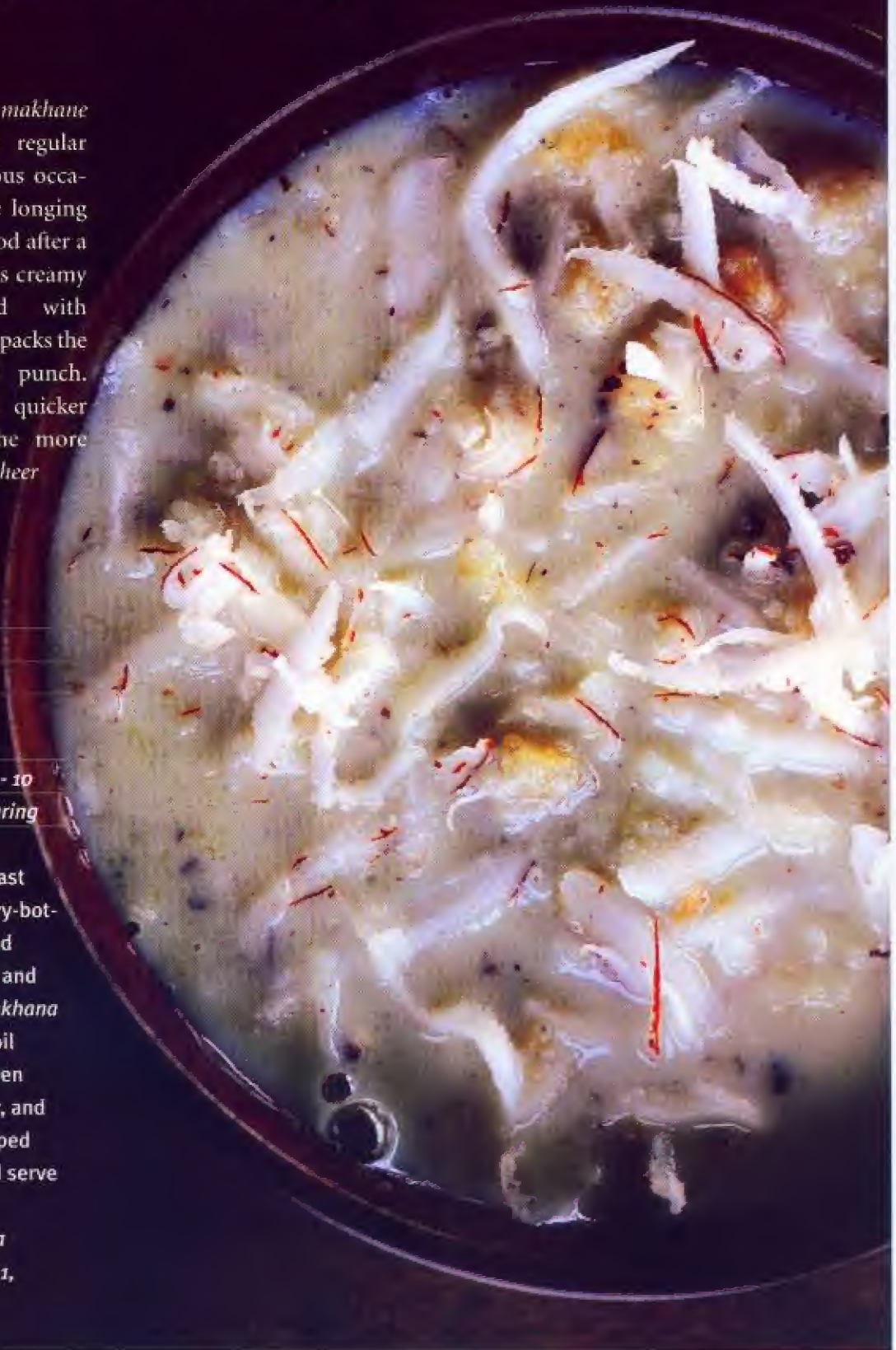
- 2 tablespoons

Chopped almonds - 10

Cardamom - flavouring

Heat butter and roast *makhana* in a heavy-bottomed vessel. Grind coarsely. Boil milk and add sugar. Add *makhana* to the milk, and boil more. Sprinkle green cardamom powder, and garnish with chopped almonds. Cool and serve

see more *makhana*
recipes on pages 11,
70 and 71





Sphere of taste

One cannot store *sattu laddoos* for long. Perhaps there is no need for that. *Sattu laddoos* are usually chomped away almost as soon as they are prepared.

Sattu - 100 gm

Milk - enough to make a dough

Sugar - to taste

Mix *sattu* with sugar and milk to prepare dough. Roll into *laddoos* and serve

see more *sattu* recipes on pages 18, 19 and 134

T

he green round fruits of *amla* (*Phyllanthus emblica* or *Emblica officinalis*) are abundantly available in Delhi in winters. However, in India, it is possible to find the fruit throughout the year because the three major varieties are cultivated in the country flower at different times. A tree growing in the wild yields 20 kg of fruits, which is comparatively much lower than the yield of 200kg from a grafted tree.

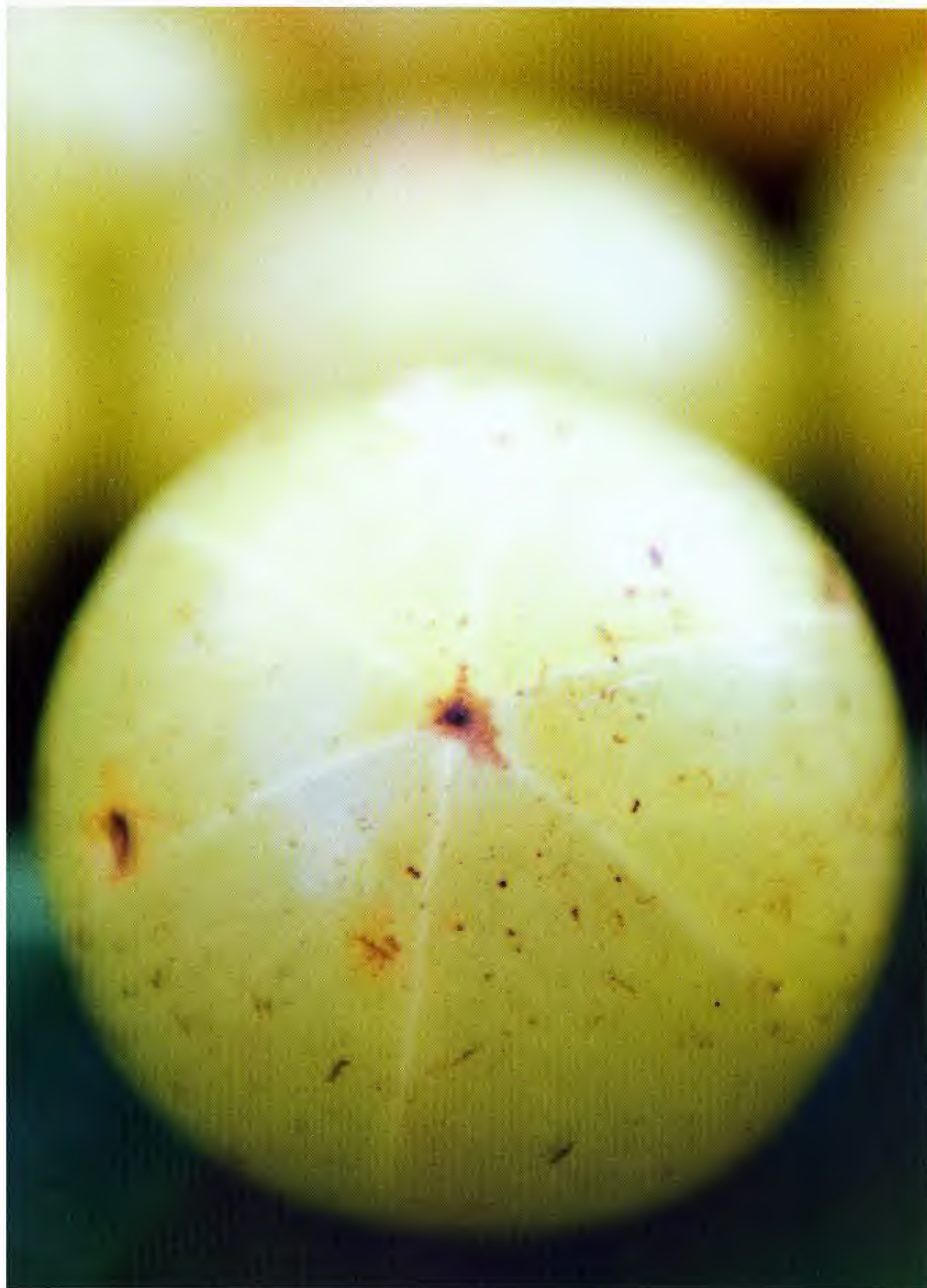
The tree is subtropical, can withstand extreme temperatures and can grow in both dry and humid conditions, sandy loam to clayey soil and from slightly acidic to alkaline soil—the only prerequisite being that the soil should be well drained. There also exists quite a distinct strain of *amla*, the wild Himalayan *amla*, which grows in the mid-hill regions of the Western Himalayas. This *amla* bears smaller fruits and is a very heavy cropper. This strain can withstand low temperatures unlike the commercial *amla*.

The three main varieties of *amla* found in India are *Banarasi*, *Hathijhool* and *Chakaiya*. The tree is wind pollinated and the fruits take around 120 days to mature. Major states under *amla* cultivation are Uttar Pradesh, Gujarat and Tamil Nadu. The fruit is in high demand across the world. On an average, 5,000 to 10,000 kg per month is exported just from Tamil Nadu to Singapore and Malaysia.

The fruit is rich in vitamin C. It contains 1,100 to 1,700 mg of ascorbic acid per 100 grammes, which is the second highest among all the fruits. In traditional medical systems, *amla* is used to treat haemorrhages, diarrhoea, dysentery, anaemia and cough. Recent research carried out in Japan shows that the fruit can reduce high serum cholesterol levels. The fruit also acts as an antioxidant and it could inhibit increased free radical activity caused by smoking or by exposure to cigarette smoke. The wood, leaves and fruits of the *amla* tree yield a yellow brown dye used for dyeing hair, silk and wood.



Amla: *Phyllanthus emblica*



The *amla murrabba* is perhaps the most easily available product of this fruit in the market. The crunchy preserve is both a medicine and a sweet dish

MURRABBA

Amla - 1 kg

Sugar - 1 kg

Lime (the kind used in paan) - 1 tablespoon

Prick fruits with a fork. Dissolve lime in water and keep the fruits soaked overnight. Repeat this procedure twice. Then, wash the fruits thoroughly, so that no traces of the lime remain. Thereafter, boil them in at least one litre of water. Cook till tender. Make thick sugar syrup. Add the *amla* fruits in the syrup and simmer for four to five minutes. Add cardamom or any other flavouring agent, and the *murrabba* is ready. Store in an airtight jar. The dish can be stored for four to five months

see more amla recipes on pages 41 and 121

An *amla* a day



Dessert without calories

Sweetened lightly, the puffy *chaulai laddoo* is just the delicacy for people looking to go easy on calories

CHAULAI KE LADDOO

Chaulai - 500 gm

Sugar - 250 gm

Cardamom - for flavouring

Roast the *chaulai* lightly. Prepare sugar syrup by dissolving sugar in water and boiling till the syrup is sticky. Add enough quantity of the syrup to the *chaulai* to be able to roll small balls. Give final touches to the *laddoo* by rolling them on powdered cardamom. Honey could also be used to sweeten the *laddoos*. Place the balls to dry on a lightly greased plate

see more chaulai recipes on page 49

Fast perfect

On days of fasts when the stomach acids are raging, the moisture-laden *singhare ke katile* impart a cooling effect. They are a sweet lover's delight anyhow

Take 100 gm of *singhara* flour in a pan. Roast it well and keep aside. Take 400 ml of water in a pan and add 200 gm of sugar to it; mix well. Add the flour to it and stir well to remove clots. Cook on a slow flame. Keep stirring till the mixture thickens. Pour in a greased plate and set. Garnish with grated coconut and cardamom powder. Cut into small squares

see more recipes on singhara on page 91



Seed for all seasons

Come winters, the market is filled with a variety of *gazzaks*, *pattis* and *laddoos* made of sesame. The same can be made at home, with tweaks to suit one's palate

TIL KI PATTI

Sesame seeds - 3 cups

Groundnut - 1/2 cup

Sugar - 2 cups

Roast sesame and groundnuts. Grind the sesame coarsely and the nuts finely. Caramelize sugar and mix sesame and nuts in it. Spread layers of the hot paste on a greased tray. Sprinkle grated dry coconut. Cut the paste into diamond shape pieces. Let them cool for while

TIL KE LADDOO

Sesame seeds - 1 cup

Groundnut - 1/2 cup

Cashewnut - 1/2 cup

Jaggery - 1/2 cup

Roast sesame seeds, groundnuts and cashew nuts for about five minutes. Crush coarsely. Melt the jaggery and put nuts and seeds. Cool for a while. Grease hands with ghee. Take small amounts of the mixture and make *laddoos*

see sabzi recipe on page 73

Til patti

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- Pushpesh Pant, Fast food, October 15, 2002
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Aparna Pallavi, Stalk soup, November 15, 2010
Megha Prakash, Dark bean's bright side, December 31, 2010
Ravleen Kaur, Cool medicine, March 15, 2011
Sudeshna Saha, A thousand utility leaf, May 15, 2011
Aparna Pallavi, Gulp it down the cool way, December 15, 2011
Aparna Pallavi, Eat it bland, eat it pickled, February 15, 2012
Sharmila Sinha, Beyond stoned, March 15, 2012
Aparna Pallavi, Flame that cools, June 30, 2012

Index

For convenience, both Hindi and English names are given in parenthesis wherever relevant.

A		Baobinia variegata (kachnar, orchid tree)		Raita		49
Aegle marmelos (bael, stone apple)		Meals		Saag		49
Beverage		Kachnar and aloo ki tarkari		Sweets		
Sherbet		100		Laddoo		161
Amarantibus hybridus (chaulai, amaranth)		Kachnar and chana tarkari		Coleus (Omavalli, Mexican Mint)		
Meals		Kadhi		Meals		
Raita		100		Leaf raita		108
Saag		100		Colocasia esculenta (arbi)		
Sweets		Bhang		Breakfast and snacks		
Laddoo		161		Patode		28
Amla		Bhangjeera		Corchorus sativus (jute)		
Meals		Beverage		About the plant		50
Dal		Tea		Breakfast and snacks		
Raita		143		Pakora		31
Chutneys and pickle		Chutneys and pickles		Meals		
Achar		120		Saag		52
Chutney		122		Corn		
More about amla tree		More about spices		Meals		
Sweets		144		Corn soup		103
Murabba		160		Cucumis callosus (selni, melon)		
Arbi		Buckwheat		Meals		
Breakfast and snacks		Meals		Khula		107
Patode		Khuree		Curcuma longa (haldi, turmeric)		
28		96		Sweet		
Azadirachta indica (neem)		Butea monosperma (palash, flame of the forest)		Haldi patra pitha		150
Chutney and pickle		Beverage		Cyamopsis tetragonoloba (guar)		
Pachidi		Sherbet		Meals		
115		147		Phalli sabzi		46
Meals		C		D		
Neem baigun		Cannabis sativa (bbang, marijuana)		Dal		
58		Breakfast and snacks		Amla dal		41
Neem phool ka bhaja		Pakora		Papaya dal		79
58		35		Daucas carota (gajar, carrot)		
More on neem tree		Chutneys and pickles		Beverage		
116		Chutney		Kanji		137
B		120		Kanji vada		137
Bael		Capparis decidua (ker)		More about carrots		138
Beverage		Meals		Dictyophora (mushroom)		
Sherbet		Sabzi		Meals		
127		61		Soup		109
Bajra		Carica papaya (papita, papaya)		Dolichos biflorus (gabat, Horsegram)		
Meals		About the fruit		Breakfast and snacks		
Bhakari		Meals		Gabat parantha		22
Khichdi		Dal		Meals		
85		79		Gabat soup		53
Sweets		Flower fry		Drumstick		
Kheer		79		About the drumstick tree		42
152		Salad		Meals		
Bamboo		Carissa carandas (karanda, Bengal currant)				
About bamboo		About the plant				
64		112				
Meals		Chutneys and pickles				
Akibiye		Pickle				
62		114				
Ironba		Meals				
62		Sabzi				
Rotuai		67				
Shoot fried		Chaulai				
62		Meals				

<i>Moringa thoran</i>	45	Meals		Makhana	
E		<i>Gongura pappu</i>	39	About the plant	12
Euryale ferox (makhana, foxnut)		<i>Gongura pulusu</i>	39	Breakfast and snacks	
Makhana		J		Cereal	11
About the plant	12	Jute		<i>Parantha</i>	11
Breakfast and snacks		About the plant	50	Snack	11
cereal	11	Breakfast and snacks		Meals	
<i>Parantha</i>	11	<i>Pakora</i>	31	<i>Raita</i>	70
Snack	11	Meals		<i>Sabzi</i>	71
Meals		<i>Saag</i>	52	Sweets	
<i>Raita</i>	70	K		<i>Kheer</i>	156
<i>Sabzi</i>	71	Kachnar		Manibot esculenta (tapioca)	
Sweets		Meals		Meals	
<i>Kheer</i>	156	<i>Kachnar and aloo ki tarkari</i>	100	<i>Sabzi</i>	99
F		<i>Kachnar and chana tarkari</i>	100	Masala paan	
Fagopyrum esculentum (kuttu, buckwheat)		<i>Kadhi</i>	100	Breakfast and snacks	
Meals		Kanji		<i>Masala paanachi wadi</i>	32
<i>Khuree</i>	96	Beverage		Milk	
G		<i>Kanji</i>	137	Beverage	
Gahat		<i>Kanji vada</i>	137	<i>Thandai</i>	135
Breakfast and snacks		More about carrots	138	<i>Thambli</i>	142
<i>Gahat parantha</i>	22	Karanda		Millets	
Meals		About the plant	112	<i>Bajra bhakari</i>	85
<i>Gahat soup</i>	53	Chutneys and pickles		<i>bajra kheer</i>	152
Garcinia indica (kokum, Goa butter tree)		Pickle	114	<i>bajra khichdi</i>	85
Beverage		Meals		Corn soup	103
Sorbet	133	<i>Sabzi</i>	67	<i>Ragi kheer</i>	153
Glycine max (soybean)		Ker		Moringa oliefera (drumsticks)	
Meals		Meals		About the drumstick tree	42
<i>Bhatwani</i>	40	<i>Sabzi</i>	61	Meals	
<i>Kinema</i>	75	Kheer		<i>Moringa thoran</i>	45
More about pulses	76	<i>Bajra kheer</i>	152	Morus nigra (shebtut, mulberry)	
Gongura (ambadi)		<i>Makhana kheer</i>	156	Chutneys and pickles	
Breakfast and snacks		<i>Ragi kheer</i>	153	Jam	119
<i>Ambadi bhaji</i>	15	Kokum		Mulberry	
<i>Ambadi bhakhar</i>	15	Beverage		Chutneys and pickles	
Meals		Sorbet	133	Jam	119
<i>Gongura pappu</i>	39	L		Mushroom	
<i>Gongura pulusu</i>	39	Laddoo		Meals	
Guar		<i>Chaulai laddoo</i>	161	Soup	109
Meals		<i>Sattu laddoo</i>	157	N	
<i>Phalli sabzi</i>	46	<i>Til laddoo</i>	163	Neem	
H		M		Chutneys and pickles	
Haldi		Madhuca indica (mahua)		<i>Pachidi</i>	115
Sweet		About the plant	26	Meals	
<i>Haldi patra pitha</i>	150	Breakfast and snacks		<i>Neem baigun</i>	58
Hibiscus sabdariffa (gongura, sorrel)		<i>Mahua bhakhar</i>	15	<i>Neem phool ka bhaja</i>	58
Breakfast and snacks		<i>Mahua poda peetha</i>	25	More on neem tree	116
<i>Ambadi bhaji</i>	15	<i>Mahua rasputuka</i>	25	O	
<i>Ambadi bhakhar</i>	15	Mahua		Omavalli	
		About the plant	26	Meals	
		Breakfast and snacks		<i>Leaf raita</i>	108
		<i>Mahua bhakhar</i>	15	Oryza sativa (rice)	
		<i>Mahua poda peetha</i>	25	About rice	88
		<i>Mahua rasputuka</i>	25	Breakfast and snacks	
				<i>Navara stew</i>	29
				<i>Pantabhat</i>	20

Meals			R		Sweets	
<i>Kanhi</i>	87		Radish		<i>Sattu laddoo</i>	157
P			Meals		<i>Selni</i>	
Palash			<i>Thechwani</i>	93	Meals	
Beverage			Ragi		<i>Khula</i>	107
Sherbet	147		Sweets		<i>Sesamum indicum (til)</i>	
Papaya			<i>Ragi kheer</i>	153	Meals	
About the fruit	80		<i>Rapbanus sativus (multi, radish)</i>		<i>Til ke aloo</i>	73
Meals			Meals		Sweets	
<i>Dal</i>	79		<i>Thechwani</i>	93	<i>Til ki patti</i>	163
Flower fry	79		<i>Rhododendron</i>		<i>Til ke laddoo</i>	163
Salad	79		Beverage		<i>Singhara</i>	
Parantha			Squash	128	Meals	
<i>Gahat parantha</i>	22		More about the tree	130	<i>Singhare ki puri</i>	91
<i>Makhana parantha</i>	11		Rice		<i>Singhare ki sabzi</i>	91
<i>Sattu parantha</i>	18		About rice	88	Sweets	
<i>Pennisetum glaucum (bajra, pearl millet)</i>			Breakfast and snacks		<i>Singhare ke katle</i>	162
Meals			<i>Navara stew</i>	29	Soup	
<i>Bajra bhakari</i>	85		<i>Pantabhat</i>	20	Corn soup	103
<i>Bajra khichdi</i>	85		Meals		<i>Gahat soup</i>	53
Sweets			<i>Kanhi</i>	87	Mushroom soup	109
<i>Kheer</i>	152		<i>Rivea hypocrateriformis (masala paan, common night glory)</i>		Soybean	
<i>Perilla frutescens (bbangjeera, beefsteak plant)</i>			Breakfast and snacks		Meals	
Beverage			<i>Masala paanachi wadi</i>	32	<i>Bhatwani</i>	40
Tea	143		S		<i>Kinema curry</i>	75
Chutneys and pickles			Sabzi		More about pulses	76
Chutney	122		<i>Guar sabzi</i>	46	Spices	
More about spices	144		<i>Karanda sabzi</i>	67	Beverage	
<i>Phyllanthus emblica (amla, Indian gooseberry)</i>			<i>Makhana sabzi</i>	71	<i>Bhangjeera tea</i>	143
Meals			<i>Neem baigun sabzi</i>	58	<i>Rasam</i>	140
<i>Dal</i>	41		<i>Neem phool bhaja</i>	58	More about spices	144
<i>Raita</i>	41		Papaya flower fry	79	T	
Chutneys and pickles			<i>Sangri ki sabzi</i>	55	Tapioca	
<i>Achar</i>	121		<i>Shukto</i>	69	Meals	
Chutney	121		<i>Singhare ki sabzi</i>	91	<i>Sabzi</i>	99
More about amla tree	158		<i>Tapioca sabzi</i>	99	Til	
Sweets			<i>Sangri</i>		Meals	
<i>Murabba</i>	160		About the tree	56	<i>Til ke aloo</i>	73
<i>Prosopis cineraria (sangri)</i>			Meals		Sweets	
About the tree	56		<i>Sangri ki kadhi</i>	55	<i>Til ki patti</i>	163
Meals			<i>Sangri ki sabzi</i>	55	<i>Til ke laddoo</i>	163
<i>Sangri ki kadhi</i>	55		Sattu		<i>Trapa natans (singhara, water chestnut)</i>	
<i>Sangri ki sabzi</i>	55		Breakfast and snacks		Meals	
			<i>Sattu parantha</i>	18	<i>Singhare ki puri</i>	91
			<i>Litti</i>	19	<i>Singhare ki sabzi</i>	91
			<i>Sattu dough</i>	19	Sweets	
			Beverage		<i>Singhare ke katle</i>	162
			<i>Sattu drink</i>	134	Z	
					<i>Zea mays (makki, corn)</i>	
					Meals	
					Corn soup	103

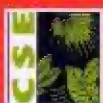
SINCE AGES, KITCHENS IN INDIA HAVE CELEBRATED THE BOUNTIES OF THE COUNTRY'S FARMS AND FORESTS.

Biodiversity, along with gastronomical artefacts, serves as a marker for human relationships. Meals are about festivities, rituals, fertility and prosperity. They are also about therapy and everyday life. This collection of around 100 recipes from different parts of the country brings to life the magic that takes place once biodiversity is combined with culinary dexterity. We travel to tribal pockets of India. We join farmers working the alluvial soil, renewed every year with the silt deposited by flooding rivers, and lick our fingers after a sumptuous meal made from fruits and pods in areas where soils are known to be poor. We sit besides bonfires relishing sweets made from coarse grains and enjoy the winter sun crunching savouries made from nuts and seeds. The summer seems much less harsh with a cool squash of flowers plucked in the hills. Herbs, spices, fruits and leaves make for a lip smacking platter.

While taking us on this gastronomical journey, this book reminds us that all is not well with the biodiversity and our kitchens are no longer as rich as they once were. It also tells us that biodiversity is best protected if it is celebrated in our kitchens.

REVISED AND ENLARGED EDITION

Down To Earth



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